

**STATE OF NEW HAMPSHIRE**  
**SITE EVALUATION COMMITTEE**

**September 21, 2018 - 9:00 a.m.**  
49 Donovan Street  
Concord, New Hampshire

**DAY 6**  
**Morning Session ONLY**

*{Electronically filed with SEC 10-04-18}*

**IN RE:           SEC DOCKET NO. 2015-04**  
**Application of Public**  
**Service of New Hampshire**  
**d/b/a Eversource**  
**Energy for Certificate**  
**of Site and Facility**  
**(Adjudication Hearing)**

**PRESENT FOR SUBCOMMITTEE/SITE EVALUATION COMMITTEE:**

<b>Patricia Weathersby</b> <i>(Presiding Officer)</i>	Public Member
<b>David Shulock</b>	Public Utilities Comm.
<b>Dir. Elizabeth Muzzey</b>	Div. of Hist. Resources
<b>Charles Schmidt, Admin.</b>	Dept. of Transportation
<b>Dir. Christopher Way</b>	Div. of Economic Dev.
<b>Michael Fitzgerald</b>	Dept. of Env. Services
<b>Susan Duprey</b>	Public Member

**ALSO PRESENT FOR THE SEC:**

**Michael J. Iacopino, Esq.**           Counsel for SEC  
*(Brennan, Lenehan, Iacopino & Hickey)*

Pamela G. Monroe, SEC Administrator

*(No Appearances Taken)*

**COURT REPORTER: Cynthia Foster, LCR No. 14**

**I N D E X**

<b>WITNESS PANEL</b>	<b>KURT NELSON</b>	<b>PAGE NO.</b>
<b>(Resumed)</b>	<b>SARAH ALLEN</b>	
	<b>ANN PEMBROKE</b>	
	<b>DR. CRAIG SWANSON</b>	
	<b>BJORN BJORKMAN</b>	
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**P R O C E E D I N G S****(Hearing resumed at 9:00 a.m.)**

1  
2  
3 PRESIDING OFFICER WEATHERSBY: Good morning  
4 all. Welcome to Day 6 of the hearings for the  
5 Seacoast Reliability Project. To the Committee,  
6 let me be the first to say happy autumn to you  
7 all.

8 We today we are going to continue with the  
9 Environmental Panel starting with Attorney Aslin  
10 asking his questions, then the Committee will  
11 ask our questions and then there'll be redirect.

12 After the Environmental Panel is done, we  
13 will move on to Mr. Cullen. After Mr. Cullen we  
14 will hear from Dr. Shapiro, possibly Mr. Varney  
15 if there's time. But that's going to be the  
16 order of the witnesses today. So without  
17 further ado, Attorney Aslin?

18 MR. ASLIN: Thank you, Madam Chair.

**CROSS-EXAMINATION**

19  
20 **BY MR. ASLIN:**

21 Q Good morning.

22 A Good morning.

23 Q Good to see you again. I want to pick up on a  
24 quick point about vegetative clearing in the

1 right-of-way. On the screen is Applicant's  
2 Exhibit 124 which is the Best Management  
3 Practices construction plan document and on  
4 electronic page 6, which is actually page 2 of  
5 this part of the document, there's a BMP  
6 regarding vegetative removal and limiting it to  
7 just that necessary for construction of the  
8 Project. And I wanted to understand a little  
9 better the distinction between some of the  
10 statements that have been made in the  
11 Application and during testimony that the  
12 right-of-way was going to be cleared to its full  
13 100-foot extent.

14 Am I correct that the tree clearing is  
15 trees and that vegetative clearing is not going  
16 to be, I mean, you're not going to mow the  
17 hundred feet from the right-of-way?

18 A (Nelson) Okay. So construction maps show,  
19 indicate where there's likely to be tree  
20 clearing, and that's based on, if you reference  
21 the environmental maps you'll see that sort of  
22 green gob shape. That's an overhead view  
23 showing the tree canopy. In order to achieve  
24 right-of-way clearances to a hundred feet in

1 that area that will either involve tree removal  
2 or limbing of trees to get that full hundred  
3 feet.

4 As I said yesterday, there are a number of  
5 miles on this project that are close to that  
6 full hundred foot width today as we speak, and a  
7 lot of that work may just involve limbing.  
8 Another aspect of the tree clearing is  
9 assessment for hazard trees. Hazard trees are  
10 trees that may have some defect like rot or lean  
11 or splits that would make them more prone for  
12 failure, and those would be trees that we target  
13 for removal as well.

14 The other phase of preparation for this  
15 type of Project is brush maintenance, and brush  
16 is the vegetation on the floor of the  
17 right-of-way corridor. Eversource's protocol  
18 for brush maintenance within a utility  
19 right-of-way is a selective maintenance program.  
20 This Project where we're have matting and the  
21 need for setup areas at structural locations,  
22 that effort is maybe more, it will be more  
23 aggressive than typically done for a standard  
24 maintenance protocol. May have to mow things

1 down pretty flat to allow for timber matting and  
2 pads and work areas.

3 Areas outside of access roads and timber  
4 mat setup areas, those areas would be  
5 selectively mowed, and what I mean by that is  
6 what we do is we target tall growing tree  
7 species as best we can. So we have what we call  
8 compliant vegetation and noncompliant  
9 vegetation. That simply refers to the mature  
10 growth height of a particular species so what  
11 we're doing when we do a brush maintenance  
12 effort is we're trying to target the tall  
13 growing tree species.

14 In right-of-way environments, there's a  
15 host of low growing native shrub species, and we  
16 especially endeavor to leave those in the  
17 right-of-way corridor to the best of our  
18 ability. Oftentimes, you -- seldom are you  
19 going to see a right-of-way corridor mowed down  
20 like a carpet. It's just too much native  
21 compliant vegetation within the right-of-way so  
22 the corridor is going to remain heavily  
23 vegetated throughout.

24 Q And that would be consistent with this BMP to

1 maintain habitat to the extent you can?

2 A Exactly. Right. So the large piece of that, as  
3 I said, is the selective mowing. There will  
4 definitely be understory or low-growing  
5 vegetation retained to the highest extent  
6 practicable.

7 With respect to edge clearing, the goal is  
8 to get that hundred-foot width established where  
9 we need to, and like I said, a lot of that may  
10 just be a matter of limbing trees to achieve  
11 that goal.

12 Q So it sounds like work pads, access road areas,  
13 there's going to be significant impact, but  
14 outside of that, you're just trying to get rid  
15 of tall growing trees for the most part?

16 A (Nelson) Yes. Significant temporary impact.  
17 And bear in mind a lot of the, a number of the  
18 access pads are typically fairly well  
19 established on right-of-way corridors, this  
20 particular right-of-way corridor, as I  
21 recollect, we don't have sort of that  
22 pre-existing well-established access road. I  
23 just don't believe this right-of-way is accessed  
24 as frequently as some of our other right-of-ways

1 are.

2 So that will be, you know, maybe a more  
3 aggressive mowing effort to establish those  
4 access roads, but it's a temporary condition,  
5 and from my experience as an arborist, you know,  
6 your perspective, you gain a perspective on how  
7 vigorous nature is with respect to revegetating.  
8 These are full sun areas, and following these  
9 construction activities these right-of-way  
10 corridors will rapidly revegetate.

11 Q Other than natural revegetation, is there  
12 restoration proposed for the access roads and  
13 work pads?

14 A Yes, there is. Access roads and pad areas will  
15 be graded, smoothed, and those areas will be  
16 seeded for stabilization and mulched. What  
17 you'll find is that the native vegetation,  
18 there's a native, there's a seed bank of native  
19 vegetation in the soil. So that native  
20 vegetation is going to come back naturally on  
21 its own as well.

22 Q Okay. Thank you. The Best Management Practices  
23 for wildlife that's outlined in this document in  
24 general which is, again, Applicant's Exhibit

1 124, my understanding is that surveys were  
2 conducted early on in the process to determine  
3 where there may be species or habitat of  
4 concern, rare, threatened or endangered species;  
5 is that a fair statement?

6 A (Allen) Yes. They were conducted jointly.  
7 Well, I shouldn't say jointly. They were  
8 conducted and informed by Natural Heritage  
9 mapping that shows locations of species of  
10 concern.

11 Q Right. And if I understand correctly, based on  
12 National Heritage Bureau mapping the surveys  
13 were conducted within the right-of-way anywhere  
14 that was within a half a mile of a prior  
15 observance?

16 A (Allen) That's correct.

17 Q And those surveys were done in the 2013 to 2015  
18 time frame; is that right?

19 A (Allen) Yes. I'd say predominantly in 2015 was  
20 when we started concentrating on it. And I  
21 think we did a little additional survey in 2016.

22 Q And it would appear that for most of the  
23 identified species of concern, there is a plan  
24 to resurvey preconstruction; is that correct?

1 A (Allen) Yes. Just prior to construction, we  
2 will be out there doing what's called route  
3 clearing. So when the contractors go into a  
4 work area, we will sweep it to make sure that  
5 there are no, especially some of the more  
6 sedimentary species like turtles that are within  
7 the work area. So those will be either removed  
8 or they'll be documented and taken out of the  
9 area one way or another. We'll also look for  
10 any new turtle nesting areas or anything like  
11 that need to be avoided.

12 Q Okay. Thank you. I'll get to the turtles and  
13 snakes in just a minute.

14 When doing the preconstruction surveys, are  
15 those also going to be limited in area to the,  
16 so the original survey areas within half a mile  
17 of prior observances?

18 A (Allen) The way it works out on this route is,  
19 well, two things. We are not planning on doing  
20 new sort of broader surveys. We're just going  
21 to be sweeping the work areas at this point. I  
22 think we've probably much established with  
23 National Heritage sort of the existing  
24 conditions. So the sweeps will be done

1 Project-wide.

2 Q Let's take a look at a couple of specific  
3 examples. One of the species of concern is  
4 crested sedge; is that right?

5 A That's correct.

6 Q And that's a State endangered plant?

7 A Yes.

8 Q And that was identified, and it was one location  
9 within the right-of-way?

10 A Actually four locations.

11 Q It appears, I'm not sure if it's in this  
12 document. I think it's in the RTE report, but  
13 my understanding is that there was an initial  
14 survey done within a half mile of prior  
15 observances, and then a second survey was done  
16 looking out a full mile; is that correct?

17 A (Allen) For this particular species?

18 Q Yes.

19 A (Allen) I would have to go back and look.

20 Q All right. So sitting right here, you're not  
21 able to tell us why that second survey would  
22 have looked farther out?

23 A (Allen) I know the second survey was done  
24 basically to make sure we had the mapping

1           correctly so once we knew, this was, as I recall  
2           this was a historic species. There wasn't an  
3           active record for it within the corridor so this  
4           is qualifying somewhat of a new find so we  
5           wanted to make sure that we had looked broadly  
6           enough so we went back to other similar habitats  
7           to relook for it.

8           Q     Okay. So the distinction being there was no  
9           specific prior observance but more historical  
10          record?

11          A     (Allen) There was a specific prior observance.  
12          It was in a different location.

13          Q     For this species in the Best Management  
14          Practices, it references preconstruction survey,  
15          I believe?

16          A     (Allen) Yes.

17          Q     The question was when do you anticipate that  
18          survey to take place seasonally?

19          A     (Allen) This species flowers in early summer.  
20          So we would do it, it's best to identify sedges  
21          just when they've gone to seed. So we would do  
22          it, we'd coordinate with the team. So we would  
23          either do it just at that time which it's  
24          probably late June or July to make sure that

1 we've captured it at the right time.

2 Q Okay. So does that mean that for areas where  
3 crested sedge may be present construction can't  
4 start until July or August time period after a  
5 survey?

6 A (Allen) We actually know the locations of it so  
7 what we will do is lay out the access roads as  
8 they're planned, showing, we actually avoid  
9 almost all of the sedge areas. There's one very  
10 small location that we do cross with an access  
11 road so they will be able to do that.

12 Q Okay. So it sounds like that access road may be  
13 laid out prior to a preconstruction survey.

14 A (Allen) It's possible. For this plant we  
15 actually know its leaves well enough that we can  
16 probably, we can be a, we can do a conservative  
17 mapping which is what we do prior to layout.

18 Q Okay. And the third bullet here under crested  
19 sedge says that if construction is to be  
20 performed during the growing season, it's best  
21 to perform work after the seed is set?

22 A (Allen) Correct.

23 Q What time is that? When is seed-set?

24 A Seed-set is probably going to be late July, I

1 would say.

2 Q But it sounds like you may do some work in the  
3 area of the crested sedge prior to late July, at  
4 least with the access roads?

5 A (Allen) As I said, the two largest areas are  
6 avoided entirely. There's one small corner of  
7 one small patch that is crossed by the access  
8 road.

9 Q Okay. I think you testified a minute ago that  
10 you may do some work prior to a survey, but that  
11 survey may not take place until July. So it  
12 sounds like you may be doing some work prior to  
13 seed-set and prior to another survey of the  
14 area.

15 A (Allen) Yes. Well, I should, the way we left it  
16 with Natural Heritage is that we have to consult  
17 with them on the plan, and once we understand  
18 sort of the Project construction schedule based  
19 on getting a permit, we will take a look at that  
20 area. We'll come up with a construction plan,  
21 we'll go back to Natural Heritage to make sure  
22 they're on board with the sequence of events and  
23 take it forward from there.

24 Q Okay. I didn't see a reference to the

1 construction plan in the Best Management  
2 Practice, but that sounds like that's the  
3 approach you'll apply. Will that apply to all  
4 other species as well, plant species?

5 A (Allen) It will. That's actually one of our DES  
6 conditions.

7 Q Okay. The Best Management Practices also  
8 reference a long-term monitoring, population  
9 monitoring plan?

10 A (Allen) For the species.

11 Q Has that been developed yet for the species? Or  
12 is that to be developed?

13 A (Allen) We have developed a general one. We  
14 need to, we've been asked to revise this plan a  
15 little bit more. So if they want us to expand  
16 on that, that would be the time we would do  
17 this.

18 Q Is that plan, at least preliminary plan in the  
19 record at this point?

20 A (Allen) It is. It's part of the report that  
21 this summary sheet is from.

22 Q Okay. Thank you. I want to turn to the turtles  
23 and the snakes, the reptiles. If I understand  
24 it, the four reptile species of concern are

1 Blanding's turtles, spotted turtles, eastern  
2 hognose snake and the black racer snake; is that  
3 correct?

4 A (Allen) I think that's the list.

5 Q Those are the rare, threatened or endangered  
6 reptiles?

7 A Yes.

8 Q A minute ago you were discussing or mentioned  
9 the plan to search and clear work areas prior to  
10 work starting?

11 A (Allen) Yes.

12 Q And it looks like in your Best Management  
13 Practice document that the plan to clear the  
14 area says that they can also be -- let's see if  
15 I can find the right language here.  
16 Construction areas that are cleared of snakes  
17 must be fenced to prevent reentry by snakes or  
18 searched daily to find or remove snakes. So  
19 sounds likes there's two different possible  
20 approaches. One is a daily search and exclusion  
21 of species that are found, and another is to  
22 search and then keep them from coming back in.  
23 Are those the two different approaches that may  
24 be used?

1 A (Allen) It depends on the type of exclusion  
2 fencing they use. If they use a fence that does  
3 not allow snakes to penetrate, there is not a  
4 need for a daily survey. What we typically do  
5 is train the contractors also to be aware of  
6 these species. So we work jointly with them  
7 just to make sure that they are multiple eyes on  
8 the ground. Making sure nothing slips through.

9 Q Do you have a sense of whether exclusion fencing  
10 will be used as a general matter for reptiles of  
11 concern? Or is that case by case?

12 A (Allen) We have not had that discussion yet with  
13 the contractors. I don't know, do you have an  
14 Eversource opinion on that?

15 A (Nelson) I believe it would be case by case.  
16 I'm not a hundred percent familiar with the  
17 mapped locations, the full extent of the map  
18 locations for these species. We'd apply the  
19 monitoring aspect throughout the entire  
20 right-of-way corridor and so standard BMP snake  
21 and turtle sweeps so it's the effort on the part  
22 of the environmental monitoring and then the  
23 construction crew to be aware of reptiles  
24 potentially in the work zone.

1           As far as exclusion fencing, again, I don't  
2           have the full map in my head at this moment of  
3           which areas that that might be most appropriate.

4       A     (Allen) Just to take that a little further, we  
5           know the areas that Fish & Game is concerned  
6           about for this species, for black racer. So  
7           that will allow us, there are two areas that  
8           they think may be near hibernaculums, places  
9           where snakes overwinter. So in those specific  
10          areas we will certainly take extra precautions.  
11         This species is a very active, very fast animal  
12         so I don't worry too much about it being caught  
13         in the right-of-way.

14       Q     Okay.

15       A     (Allen) But we will definitely train our staff  
16         to look for it.

17       Q     But this same approach is proposed for the other  
18         reptiles of concern?

19       A     (Allen) Right.

20       Q     Including the nonfast ones?

21       A     (Allen) Those are the ones that we need to be  
22         especially careful with.

23       Q     So it sounds like the general approach is to do  
24         a daily preconstruction sweep of the area. In

1           some places you may have exclusion fencing that  
2           would eliminate the need for that daily sweep  
3           because you've already removed all animals and  
4           secluded them from the area; is that a fair  
5           summary?

6       A     (Allen) We may not have daily sweeps by  
7           environmental monitors. I think part of the  
8           protocol for contractors is to do their own  
9           daily sweep, as a set of eyes.

10      Q     Okay. So when would an environmental monitor be  
11           required for a sweep as opposed to just the  
12           construction personnel?

13      A     (Allen) Again, it's kind of a combination of the  
14           location they're doing the work, the type of  
15           work they're doing and the type of fencing they  
16           have up. If it's within a known sensitive area  
17           or found species there in the past and they're  
18           not using snake-proof fencing, we might ask for  
19           environmental monitor to do a daily sweep.

20      Q     Okay. Thank you. Now, my understanding, and I  
21           think it says right here, but that these various  
22           species, both the snakes and the turtles, do  
23           hibernate kind of the late fall through the  
24           wintertime?

1 A (Allen) Yes.

2 Q And once they are in the hibernacula, they're  
3 difficult if not possible to find; is that  
4 correct?

5 A (Allen) Correct.

6 Q To the extent that work is planned during the  
7 hibernation period of these species, what is the  
8 plan to ensure that those species are not  
9 damaged?

10 A (Allen) We have a pretty good sense for,  
11 actually for all four of these species where  
12 they would be likely to hibernate. As I say,  
13 the two areas that were on the or near the  
14 right-of-way corridor for racer we have surveyed  
15 twice during the prehibernation season which is  
16 when they kind of congregate outside of their  
17 hibernaculum, and we did not find animals there.  
18 So I'm pretty confident that these are not  
19 currently used.

20 The other species, the two turtles and the  
21 hognose do not, they hibernate, well, especially  
22 the two turtles hibernate in deep aquatic sites  
23 of which none are on the corridor. There is no  
24 record for the eastern hognose snake near the

1 corridor nor did we find kind of the typical  
2 habitats which is a loose sandy soil that they  
3 would be likely to use. So we're not expecting  
4 hognose to occur there at all.

5 Q Okay. But those, that data I guess is from  
6 surveys that were conducted two or three years  
7 ago at this point?

8 A (Allen) Yes.

9 Q Will that be updated prior to construction,  
10 those surveys?

11 A (Allen) For the racer, I don't think so. Those  
12 were conducted in the fall of 2016. So that's,  
13 my opinion that's recent enough that it does not  
14 need repeating, and I know the corridor well  
15 enough to know that no deep aquatic sites have  
16 developed that would be likely to support either  
17 turtle.

18 Q So you're confident that based on a two-year-old  
19 survey that black racer are not likely to have  
20 come back into the area since that last survey?

21 A (Allen) Yes.

22 Q I want to talk a little bit about the raptors  
23 and bald eagles. In the Best Management  
24 Practices document, Applicant's Exhibit 124,

1 electronic page 7. Appears to be page 3. You  
2 have a chart for the buffer distances for  
3 various raptor species. And it looks like for  
4 everything except American kestrel, it's a  
5 quarter mile; is that correct?

6 A (Allen) Yes. Based on literature.

7 Q And then similarly the prior page, electronic  
8 page 6, for bald eagles there's also listed a  
9 quarter-mile buffer area for no work?

10 A (Allen) Yes.

11 Q And those buffers are actually time-of-year  
12 restrictions, correct?

13 A (Allen) They are.

14 Q So we're talking about not doing any work within  
15 a quarter mile of active nests during the  
16 nesting season which is March 1 through April  
17 15th for eagles at least?

18 A (Allen) There's some inaccuracies in this. I  
19 saw that, too. I wasn't too happy to see that  
20 actually.

21 Q Should be July 31st?

22 A (Allen) Well, we've extended it, actually about  
23 February 15th to July 3st, but we're basically  
24 saying February at this point.

1 Q All right. So February through July is the  
2 time-of-year restriction for eagles?

3 A (Allen) That's what we're using.

4 Q And this document here references the, well, the  
5 first sentence of the second paragraph under the  
6 description in the electronic page 6 says per  
7 the U.S. Fish & Wildlife Service National Bald  
8 Eagle Management Guidelines, no work shall be  
9 done within a quarter mile of an active bald  
10 eagle nest from March 1st to July 31st.

11 So that as I understand it is your proposal  
12 at the time of this document was submitted in  
13 September of 2017, but after an eagles nest was  
14 discovered near the Project corridor in Durham,  
15 you've revised that statement a little bit; is  
16 that right?

17 A (Allen) We have. I was unhappy with that first  
18 sentence when I went back and looked at it.  
19 That quarter mile is essentially referring to a  
20 blasting, you know, sort of maximum disturbance.  
21 At a quarter mile you start looking at what your  
22 Project disturbance is. And things such as  
23 blasting within a quarter mile is generally not  
24 advisable for a bald eagle. They are very

1 sensitive to percussive noise like that and to  
2 visual disturbance. Those are the two key  
3 pieces that you're looking for. And within that  
4 quarter mile, the bald eagle guidelines sort of  
5 step it down to other levels of disturbance.

6 Q Okay. So I just wanted to look at your  
7 Supplemental Testimony that was filed regarding  
8 bald eagles, and it's Applicant's Exhibit 145,  
9 and it's on page 7 of 13 which is electronic  
10 page 8.

11 Here you're talking about a 660-foot buffer  
12 recommended by the National Bald Eagle  
13 Management Guidelines?

14 A (Allen) That's correct. That's for the visual  
15 disturbance. Like I said, eagles are very  
16 visually oriented, and if they can see a  
17 disturbance within 660 feet, the guidelines  
18 recommend that you take, you look at it  
19 carefully.

20 Q So we're backing off the quarter mile a little  
21 bit; is that fair?

22 A (Allen) Well, there is no blasting associated  
23 with this Project.

24 Q And then just last week I believe you submitted

1 to Fish & Wildlife an additional description of  
2 avoidance and minimization for bald eagles?

3 A (Allen) Yes.

4 Q And it's dated September 6th.

5 A (Allen) Yes. Just to clarify, I submitted it to  
6 New Hampshire Fish & Game and then to the Army  
7 Corps of Engineers to see if Fish & Wildlife  
8 wanted to review it. My understanding is that  
9 the Corps is probably not forwarding it because  
10 Fish & Wildlife Services is no longer listing  
11 eagles as a threatened or endangered species.

12 Q So you don't believe that the U.S. Fish &  
13 Wildlife Service is going to review this  
14 particular issue?

15 A (Allen) If I understood the Corps correctly,  
16 that's true.

17 Q And has New Hampshire Fish & Game responded to  
18 this document at this point?

19 A (Allen) They have not.

20 Q Do you anticipate that they will?

21 A (Allen) I do. I do. Kind of hoping they would  
22 before this hearing.

23 Q In this document, the September 6th update, you  
24 talk about, and under the overhead construction

1 section, you talk about a few different  
2 distances, but it seems like a thousand feet has  
3 now come out as a distance beyond which you're  
4 willing to have some construction activity  
5 during the nesting period; is that a fair  
6 statement?

7 A Certainly a thousand feet. My opinion is that  
8 the Project can do work within, right up to the  
9 660 feet during the construction season because  
10 this is relatively low disturbance work.

11 Q Okay. By low disturbance, you mean low noise or  
12 visual impact?

13 A (Allen) Low noise and there's no work above the  
14 canopy that will alarm the eagles.

15 Q Okay. And I think yesterday during testimony  
16 you referenced possibility of helicopter work.

17 A (Allen) Yes.

18 Q In this area?

19 A (Allen) Correct.

20 Q That would be above the tree canopy, correct?

21 A (Allen) That would be above the tree canopy, but  
22 I believe we addressed that in here and say that  
23 if it's during, if they need to pull it during  
24 the nesting season they will not use a

1 helicopter.

2 Q So you'll abide by the time of year restriction  
3 for helicopters?

4 A (Allen) Yes. It's that last paragraph.

5 Q So if I understand your updated position here is  
6 the 660-foot buffer is the one that controls for  
7 kind of any work, but some work outside of that  
8 distance within a quarter mile is appropriate as  
9 long as it's not too disturbing to the eagles?

10 A (Allen) For this project I think that's correct.  
11 Yes.

12 Q And you said in this document there are, I think  
13 you said there are two structures within a  
14 thousand feet; is that right?

15 A (Allen) Yes. I think that's right.

16 Q So that's going to be clearing activities, work  
17 pad construction, foundation or drilling?

18 A (Allen) The construction for the structure  
19 that's closest to the shore which is, I know  
20 I've referenced a lot of numbers in here, but it  
21 means something to Fish & Game, they're  
22 interested in activities that are close to the  
23 shore because that's also important eagle  
24 habitat. The closest structure is 330 feet from

1 the shore so I wanted to give them that number.  
2 And it is on the property owned by Eversource  
3 which is cleared habitat already. So I don't  
4 expect a lot of clearing in that location.

5 Q Okay. I think the environmental maps show a  
6 little bit of clearing along the southern edge  
7 of that area.

8 A (Allen) There is a little bit, and just to be  
9 clear, that clearing is, I haven't measured it,  
10 but that clearing is probably 800 feet from the  
11 nest, I would estimate.

12 Q Okay. Thank you. In terms of the surveys that  
13 were done initially for raptors and bald eagle  
14 nests were those, I think you said yesterday  
15 those are just done by a person walking up and  
16 down the right-of-way corridor; is that correct?

17 A (Allen) That's correct.

18 Q And you do plan to do preconstruction surveys  
19 for nests, active nests?

20 A (Allen) We will.

21 Q Will those surveys be done in a similar way or  
22 are these going to be aerial surveys?

23 A (Allen) They will not be aerial surveys.

24 They'll be ground-based surveys looking within

1 the right-of-way.

2 Q Okay. And walking the right-of-way, are you  
3 able to identify active nests that are within  
4 660 feet up in the trees?

5 A (Allen) For bald eagles we are not.

6 Q So why are you not performing area surveys to  
7 protect?

8 A (Allen) We thought we understood where bald  
9 eagles were nesting on the shore. We rely on  
10 again, bald eagles are pretty visible so we rely  
11 on records from Natural Heritage and Fish & Game  
12 to show those. This eagle nest was not recorded  
13 so we did not have, we were not privy to that  
14 record. Now that we know it's there, I can,  
15 bald eagles typically nest close to a shoreline.  
16 There will not be another bald eagle nest close  
17 to the shore on that side of the bay. I can be  
18 very confident of that just because the eagles  
19 are territorial and would not allow that.

20 Q Is it possible that there could be nests on the  
21 other side of the bay?

22 A (Allen) There is a nest on that National  
23 Wildlife Refuge which is also kind of a  
24 territorial, would be a territorial dispute,

1 overlap with ours.

2 Q And your position at this point is you will not  
3 be performing aerial surveys preconstruction?

4 A (Allen) Right.

5 Q Are you aware of any roost sites or have any  
6 identified in the vicinity of the corridor?

7 A (Allen) What do you mean by a roost site?

8 Q Well, the National Bald Eagle Management  
9 Guidelines discuss roost sites as areas of  
10 concern as well as active nests. I understand  
11 roost sites to be areas where the eagles  
12 congregate for feeding and other social  
13 activities.

14 A (Allen) That's typically a winter roost site, at  
15 least in the northeast, and it's important for  
16 the birds to have basically shelter from winter  
17 winds. I'm not aware of any winter roost sites  
18 near here. There are none near the Project  
19 area. There are none recognized by Fish & Game.  
20 The only one I'm aware of, actually two areas  
21 that are known to be used. One of them is  
22 protected down in Great Bay. The other one is  
23 further up Little Bay.

24 Q Okay. And your understanding is based on

1 records from National Heritage Bureau or others?

2 A (Allen) No. I'm not aware that National  
3 Heritage -- actually, no that's not true.  
4 Natural Heritage does show one of them because  
5 it's protected. The other one is an  
6 observational one that I've been informed of.

7 Q Okay. Is there any plan to conduct any sort of  
8 survey for winter roost sites? There will be  
9 winter construction; is that correct?

10 A (Allen) There will be winter construction. The  
11 right-of-way does not provide winter roost  
12 habitat at least along the shoreline where you'd  
13 be interested in checking simply because of the,  
14 we're going through residential areas and that  
15 would not be suitable for winter roost habitat.

16 Q Okay. It sounds like there's no plan for  
17 specific survey to look for roost sites prior to  
18 construction.

19 A (Allen) Not at this time.

20 Q Okay. Thank you. With regard to the northern  
21 long-eared bat, is there a plan to do any  
22 preconstruction surveys for maternity roosts for  
23 hibernacula?

24 A (Allen) We conducted in 2016, I believe, we

1 conducted, 2016 or 2017, I'm sorry, I'm not  
2 remembering the date of the survey, we conducted  
3 an acoustic survey which is the best way to find  
4 a species like bat, find a location of a species  
5 like a bat that's congregating in any particular  
6 area, and that survey did not indicate any  
7 hibernacula. Certainly not hibernaculums but  
8 not maternity roosts either.

9 Q Okay. The acoustic survey that was done  
10 identifies the presence of bats. Can an  
11 acoustic survey also identify the location of a  
12 maternity roost site or hibernaculum?

13 A (Allen) It cannot, but it can show areas of  
14 intense concentration which you would see for a  
15 maternity roost, hibernaculums are, at least for  
16 this species, are mostly aves and deep rock  
17 crevasses of which there are none on the project  
18 corridor or within the Seacoast area that we're  
19 aware of.

20 Maternity roosts are also mapped or at  
21 least the known ones are mapped, and there are  
22 none in the Project corridor or within the  
23 vicinity of it. You do look for evidence of  
24 roosts, intense concentrations of acoustic calls

1 to indicate possibility of a maternity roost.  
2 You also look for structures of trees that could  
3 provide maternity roosts, and even though there  
4 are some trees that could provide roosting  
5 habitat for bats, we did not see anything that  
6 would jump out at us as a maternity roost tree.

7 Q Are maternity roost trees something that could  
8 be identified visually by walking the corridor?

9 A (Allen) You can identify potential trees and  
10 then the best technique is to cross-reference to  
11 the acoustic survey.

12 Q And is there, but I think you testified a minute  
13 ago there's no plan to do additional survey work  
14 for maternity sites or for the northern  
15 long-eared in general?

16 A (Allen) That's correct. We submitted a  
17 biological opinion to, I'm sorry, a biological  
18 assessment to the Fish & Wildlife Service and a  
19 report on the acoustic findings to both Fish &  
20 Wildlife service and Fish & Game, and to date  
21 neither of those agencies has brought up the  
22 need to a do additional survey.

23 Q Okay. Thank you. With regard to the salt  
24 marsh, you have a salt marsh restoration plant

1           which I believe is Exhibit 108. My  
2           understanding from that plan, and I believe it's  
3           electronic page 2, is that there's a proposal to  
4           remove and maintain the peat blocks that are in  
5           the area of disturbance for trenching; is that  
6           correct?

7           A     (Allen) Yes.

8           Q     The plan is to replace them prior to November  
9           1st if possible. Is that correct?

10          A     (Allen) Yes.

11          Q     And if they cannot be replaced by November 1st,  
12          they're going to be maintained over the winter?

13          A     (Allen) They will.

14          Q     Is there a concern with the survivability of the  
15          peat blocks over winter?

16          A     (Allen) If we have to overwinter them, and I'm  
17          going, we've talked to the contractors about  
18          this and we're very hopeful that we will not  
19          need to do that because you're right,  
20          overwintering them is more challenging. They  
21          would have to be moved to a more protected  
22          location because you don't want those freezing.

23          Q     And if for some reason you were not able to  
24          maintain, if you have to over winter and you

1 aren't able to maintain the peat blocks, what  
2 restoration would be proposed instead?

3 A (Allen) We would maintain peat blocks somewhere.  
4 Whether we restore them November 1 or early in  
5 the spring would be the question.

6 Q Okay. So it sounds like you're confident that  
7 you can maintain them if necessary.

8 A (Allen) Oh, I think we can. I think we can.  
9 It's just more work and a little more  
10 challenging.

11 Q Thank you. I want to turn to the bay crossing.  
12 Give you a little bit of rest.

13 The proposed jet plowing and hand jetting  
14 is the main concern for I think the  
15 environmental issues for the bay crossing and  
16 sediment disturbance's primary impact; is that a  
17 fair statement?

18 A (Pembroke) Yes.

19 Q And one of the concerns of sediment disturbance  
20 would be the mobilization of contaminants into  
21 the water column?

22 A (Pembroke) That's been expressed as a concern.

23 Q And to assess that risk, you have or the  
24 Applicant has done sediment testing across the

1 cable corridor; is that correct?

2 A (Pembroke) Yes, we have.

3 Q That was done at two different times?

4 A (Pembroke) Yes.

5 Q In each instance -- one was 2016 and one was  
6 2017, is that right?

7 A (Pembroke) Yes.

8 Q And in each instance, there were samples taken  
9 in 12 locations across the corridor, but I think  
10 at each location you had three samples, one in  
11 each cable?

12 A (Pembroke) No. We had 12 samples.

13 Q Just 12 samples.

14 A (Pembroke) Yes.

15 Q Okay. So 12 samples two times.

16 A (Pembroke) Yes.

17 Q All right. Thank you. And is it correct that  
18 the total crossing is roughly a mile?

19 A (Pembroke) Just under a mile.

20 Q And I think in Applicant's Exhibit 133 it  
21 references the jet plowing being a distance of  
22 4270 feet; does that sound about right?

23 A (Pembroke) Sounds about right.

24 Q And hand jetting another 880 feet.

1 A (Pembroke) Yes. That sounds right.

2 Q Okay. And so across that roughly 5,000 foot  
3 span, you have 12 samples of sediment that you  
4 tested.

5 A (Pembroke) Yes.

6 Q And generally speaking, there were no major  
7 contaminants of concern discovered?

8 A (Pembroke) That's correct.

9 Q And that's the basis for your opinion that  
10 there's a low risk of contamination caused by  
11 the jet plowing and hand jetting?

12 A (Pembroke) That and the work that Mr. Bjorkman  
13 did to analyze the potential for a dissolution  
14 of copper into the water column.

15 Q So is it a fair statement to say that you have a  
16 relatively high level of confidence, but given  
17 that you haven't tested all of the sediment that  
18 is going to be disturbed, it is possible that  
19 there could be other contaminants that you are  
20 not aware of?

21 A (Pembroke) Well, it's possible. We submitted  
22 our survey plan to New Hampshire DES and to the  
23 Army Corps, and they accepted the plans as  
24 appropriate for the project. So I guess that

1 indicates that they had confidence that it was  
2 an adequate study design.

3 Q And I wouldn't dispute that it's an adequate  
4 study design, but my point is even if it's an  
5 adequate study design, it's simply a study and  
6 it's not a certainty that there are no  
7 contaminants that will be disturbed.

8 A (Bjorkman) I would amplify that by indicating  
9 that the 12 samples or the 12 locations along  
10 the crossing we did take did not show any  
11 evidence, any spikes, if you will, of any  
12 contaminants of the ones we investigated which  
13 is a strong indication that there will not be  
14 any, shall we say, hidden. We should have seen  
15 a signal that there was something different in  
16 some of those samples if there was indeed any  
17 presence at all of contaminants.

18 Q Okay. I wouldn't dispute that, but my point is  
19 simply do you agree that there's some  
20 possibility, it may be a small possibility, but  
21 there could be contaminants that will be  
22 disturbed by the crossing? It's at least a risk  
23 that's involved?

24 A (Pembroke) Yes. I would have to give you that

1 point.

2 Q I'm not keeping score. Just for the Committee's  
3 benefit, to understand there is not a certainty  
4 at this point. It's just --

5 A (Pembroke) That's correct.

6 Q -- a likelihood that based on the information  
7 you have.

8 A (Pembroke) That's correct.

9 Q Now, part of the regulatory scheme here is to,  
10 and I may get this backwards, but the regulatory  
11 requirements for water quality are for  
12 turbidity; is that correct? Or is it the other  
13 way around?

14 A (Pembroke) No, it's for turbidity.

15 Q And that's measured in NTUs?

16 A (Pembroke) Yes.

17 Q But if I understand it, you can't do an  
18 instantaneous measurement of NTUs?

19 A (Pembroke) You can do an instantaneous measure  
20 of the NTUs. It's total suspended solids that  
21 you can't.

22 Q So in order to -- so you've used the modeling  
23 which models total suspended sediments or  
24 solids?

1 A (Pembroke) Yes.

2 Q Rather than NTUs so you had to bridge that gap?

3 A (Pembroke) Yes.

4 Q And total suspended solids are measured in  
5 milligrams per liter?

6 A (Pembroke) Yes.

7 Q So I understand, I believe it's Applicant's  
8 Exhibit 129. Maybe I have the wrong page here.  
9 I think it's at page, electronic page 7, which  
10 is document page 6, is this the way that you  
11 determined how to correlate total suspended  
12 solids and turbidity?

13 A (Pembroke) Yes.

14 Q Okay. And so based on this computation, you've  
15 determined that, roughly speaking, 20 milligrams  
16 per liter of TSS is approximately equivalent to  
17 10 NTUs?

18 A (Pembroke) Yes.

19 Q And that's the basis for where you've developed  
20 a mixing zone?

21 A (Pembroke) Yes.

22 Q Okay. To me, looking at this figure here,  
23 Figure 1-2, I'm struck by the fact that most of  
24 the samples are clustered together below ten

1 NTUs. I think there's only one that goes above  
2 10 NTUs.

3 A (Pembroke) Yes.

4 Q Does that raise any concern in terms of the  
5 sample you're using here to be representative of  
6 the full spectrum?

7 A (Pembroke) Well, it's certainly not as complete  
8 a data set as you would like to see. It was  
9 developed from a field study that we conducted  
10 close to the project area to get a better  
11 understanding of kind of the near field  
12 turbidity, and we also collected water column  
13 samples for TSS, and this was the range that we  
14 found during that period. It was a fall 2016  
15 survey. So it kind of mimics the time frame  
16 that we would expect to be doing the work.

17 Q Would you agree that the correlation is not  
18 high?

19 A (Pembroke) Yes, I would agree.

20 Q If you've got your correlation, if for some  
21 reason this is not an accurate correlation, does  
22 that raise any concerns for the modeling or  
23 rather how the modeling is used to predict the  
24 mixing zone?

1 A (Pembroke) Well, yes. I'd have to be, I guess  
2 you could say there would be some concerns. I  
3 go back to the fact that the rate that the jet  
4 plow is passing through across the bay and the  
5 fact that it's a pretty dynamic system in terms  
6 of tidal exchange that we fully understand or  
7 fully anticipate that turbidity is going to be  
8 fluctuating constantly throughout this process,  
9 and even if we run into a place where we have an  
10 instantaneous rating that's high, we expect that  
11 within, you know, a few minutes to half an hour,  
12 it's going to be different. It's going to, once  
13 the jet plow has passed by, the turbidity plume  
14 will go by quickly as well.

15 Q Right. So that gets to the sort of the end  
16 question of whether there's a high concern of  
17 impact, but in terms of establishing the correct  
18 mixing zone, there's some possibility that we're  
19 off base based on the lack of high correlation?

20 A (Pembroke) Yes. Sarah wants to jump in.

21 A (Allen) I understand your question, and it's,  
22 you know, one we kind of wrestled with and DES  
23 as well. Conversations with DES have recognized  
24 this, that the mixing zone we know is based on a

1 model that we know is, you know, it's a static  
2 image. So there will be variation out in the  
3 field, and we fully expect that. Everyone  
4 recognizes that.

5 DES is looking for us to actually revise  
6 this so the mixing zone is shown differently and  
7 to, their opinion is it almost, it's beholden on  
8 the Project to make sure that we do not violate  
9 water quality standards so it's taking this data  
10 and operating our Project to not have those  
11 exceedances.

12 Q When you say exceed the water quality standards,  
13 that's at the boundary of the mixing zone; is  
14 that correct?

15 A (Allen) Yes.

16 Q So the size of the mixing zone is rather  
17 important as to determine where you may have an  
18 exceedance?

19 A (Allen) Oh, very much so. Right. DES has asked  
20 us to reduce this mixing zone.

21 Q So you're trying to make it smaller so there  
22 will be less extent of, in this case, TSS above  
23 20 milligrams per liter.

24 A They are primarily concerned for protecting the

1 oyster farms. So they're asking us to pull it  
2 inside the oyster farms. The active oyster  
3 farms, I should say.

4 Q When do you anticipate that adjustment to the  
5 mixing zone being completed?

6 A (Allen) That is their, I think it is condition  
7 44 where they ask that we submit a revised  
8 mixing zone plan, either, I can't remember if  
9 it's 90 or 60 days prior to construction. And  
10 our intent is to do it in advance of that  
11 certainly to make sure that we understand as  
12 well.

13 Q Okay. We'll get into it in a minute in terms of  
14 the monitoring plan, but the position of the  
15 mixing zone would affect the monitoring on this  
16 plan as well?

17 A (Allen) Yes.

18 Q Just generally speaking, you've established the  
19 mixing zone at least initially based on the 20  
20 milligram per liter TSS contour that was  
21 modeled?

22 A (Allen) Correct.

23 Q And that's this red line that's shown on, this  
24 is electronic page 6 of Applicant's Exhibit 129.

1 A (Allen) It's a sort of a hard concept to wrap  
2 your head around, but that is the maximum  
3 extent -- Craig, tell me if I get this right.  
4 It's the maximum extent of the 20 milligram per  
5 liter as the jet plow is crossing the bay. So  
6 it's moving in time. You have to keep a time  
7 component on this.

8 Q Right. That's the farthest you anticipate a  
9 concentration of 20 milligrams per liter  
10 extending at any given time during that process.

11 A (Allen) Yes. That's a better way to say it.

12 A (Pembroke) That's correct.

13 Q And then the mixing zone itself develop doesn't  
14 follow that contour exactly. It kind of smooths  
15 out the outermost portion.

16 A (Allen) Right.

17 Q In this diagram the mixing zone is the yellow.

18 A (Allen) Yes.

19 Q So it sounds like if I understand the concern  
20 that DES has raised, it is to reduce impacts to  
21 the existing oyster bed. Permitted areas.

22 A (Allen) The areas in light green are existing  
23 oyster licenses. There are actually some  
24 additional ones that are not shown. This is an

1           older figure. We have an updated figure that  
2           shows three more farms, I think, in this  
3           vicinity. Three more licenses. Would you  
4           agree?

5           A     (Pembroke) Yes.

6           Q     I understand that your expectation is not to  
7           cause damage to the oysters, the product, I'll  
8           say, of that area.

9           A     (Pembroke) Right.

10          Q     But if there were a demonstrated impact to those  
11          oyster product, would there, does the Applicant  
12          anticipate offering some mitigation?

13          A     (Allen) We do. Do you want to speak to that?

14          Q     I'm curious what conversations you've had with  
15          the oyster people.

16          A     (Nelson) We've had numerous conversations with  
17          the oyster farmers in the vicinity of the  
18          Project, and there's various approaches on the  
19          table. I'll point out an example.

20                 If you see the closest oyster farm on the  
21          east shore of the bay, that is a licensed site  
22          held by Mr. Tim Henry. In our conversations  
23          with us, he's expressed that that particular  
24          site is not one that he is all that excited

1 about keeping active. I believe he has another  
2 site that he prefers. We have reached out to  
3 him, and we are in discussions with him about  
4 assisting him moving his stock out of that area  
5 and to his other site.

6 There's another farmer who has a, he has a  
7 new license, and it's sort of in the middle,  
8 sort of in the middle of the channel area and  
9 it's relatively close to the alignment. That  
10 individual, we understand, was, we had, myself  
11 and Ms. Ann Pembroke had a conversation with him  
12 not that long ago. He had been advised by New  
13 Hampshire Fish & Game that he would need to move  
14 his stock or be aware of his Project and be  
15 prepared to make contingency to move his stock  
16 during the course of our Project.

17 We have extended to him that we'd be  
18 willing to assist him in that effort to some  
19 reasonable extent. Our understanding is that  
20 he's a relatively new operation. I don't  
21 believe he has a high number of cages, if you  
22 will, so we don't see that being too arduous of  
23 a task.

24 In our conversations with DES they agree

1 with us that we, as Sarah had mentioned, there  
2 was concern that we exclude any, the mixing zone  
3 exclude oyster license areas, and we got the  
4 clarification that the exclusion would be that  
5 we would be allowed to, that the mixing zone  
6 could transect license areas if there was no  
7 active harvesting going on in those areas. So  
8 that's one approach that we're trying to seek  
9 with some of these farmers is avoidance.

10 Mr. Jay Baker, I believe if you look, he  
11 would be sort of on the northern end, we have  
12 had discussions with him about measures,  
13 mitigation measures that we could do with  
14 respect to his stock. He's explained to us his  
15 particular harvesting protocols and needs, sort  
16 of a very dynamic situation. His need to, my  
17 understanding is he harvests oysters and he gets  
18 them out to his, distributes them sort of same  
19 day, and so his need for continuous supply of  
20 his product is very important. If there were  
21 sedimentation of unacceptable levels in portions  
22 of his area, options that were discussed were,  
23 and this is something that they do over the  
24 course of natural, normal operations is in his

1 testimony you will see the description of the  
2 natural sedimentation process that occurs. So  
3 over winter there's typically a settling of  
4 sediments. Some degree of sediments settles  
5 over the course of the wintertime. He has both  
6 bottom oysters on the bottom of the floor and  
7 then oysters in cages.

8 One mitigation endeavor that is used is the  
9 jetting of cages, cleaning out of cages, and  
10 that, my understanding, is something that they  
11 would do normally, and we have discussed helping  
12 him do that in some form or fashion.

13 The other mitigation approach that we  
14 discussed was potentially providing him with  
15 cold storage in an effort to, sort of as an  
16 avoidance measure, that we can time the jet plow  
17 pass, that if he could harvest slightly ahead of  
18 his normally scheduled harvest and put some of  
19 his oysters in cold storage during that time to  
20 effectively miss the plume, if you will, during  
21 that time frame. Ann was involved in these  
22 conversations as well so I don't know if she has  
23 anything additional to add.

24 A (Pembroke) That pretty much covers it, but I

1 also understand that Eversource has agreed to  
2 set up a claims process if any of these  
3 aquaculturists feel that the Project has caused  
4 them harm that hasn't been mitigated otherwise.

5 Q Thank you very much. I want to turn to the  
6 model for a little bit. And Mr. Swanson, if I  
7 understand correctly, your model assumes a  
8 steady advance across the bay?

9 A (Swanson) Yes, the reason we do that is it's  
10 really an operational issue that they would  
11 design for a certain duration and speed, but  
12 there may be times when the forward movement or  
13 the advance rate has to be adjusted either up or  
14 down or sometimes actually stop when they are  
15 moving equipment.

16 Q Right. And so my question is to the extent that  
17 your model correlates the location of the  
18 jetting with the tide cycle, the timing has an  
19 effect; is that fair?

20 A (Swanson) Yes.

21 Q So your model assumes a steady advance rate, but  
22 you acknowledge that there will be some  
23 differences in the advances across the bay.

24 A (Swanson) Right. I should say, though, that the

1 start time is always going to be consistent at  
2 slack high tide.

3 Q Right. And the Construction Panel testified  
4 that there would be potentially some stoppages,  
5 both if they encounter obstructions and also to  
6 reposition the lay anchors?

7 A (Swanson) Yes.

8 Q Was that taken into account in any way in the  
9 model?

10 A (Swanson) No. Because we are not sure when  
11 during the process that would have to occur,  
12 particularly if there was some issues of  
13 encountering some different types of sediment.  
14 They would know a little bit more relative to  
15 reorient, moving the equipment around, but we  
16 just couldn't come up with a way where we could  
17 account for that directly so we felt that the  
18 best way was just to assume that it was a  
19 continuing process.

20 Q Okay. And the impact of that, it's not an  
21 inaccuracy, that's not the right word, but the  
22 variability from the model results and reality,  
23 what would the impact be if there's greater  
24 stoppages or slower rate? Is it just the fate

1 of the sediments in terms of where the tide is  
2 during the process?

3 A (Swanson) Yes. That's exactly the point. The  
4 tide is flooding or ebbing, and, therefore, when  
5 the release from the jet plow occurs, it's going  
6 to be moved by the tidal currents at the time.

7 Q Okay. I'm showing on the screen part of your  
8 Revised Modeling Report which is Applicant's  
9 Exhibit 104, and this is electronic page 21,  
10 it's report page 8, and it's Table 1-4.

11 This table shows the kind of original  
12 advance rate and then the three cases that you  
13 modeled for sensitivity in the revised report;  
14 is that correct?

15 A (Swanson) Yes.

16 Q And the current expectation is 182.9 meters per  
17 hour?

18 A (Swanson) That's correct. Yes.

19 Q I think there's a typo here for the "Present -  
20 Fast." That should be 15 feet?

21 A (Swanson) Exactly. I was going to point that  
22 out.

23 Q As long as we're here, I thought we would put it  
24 in the record.

1           So the way the model is set up, the advance  
2 rate affects the duration of the time that  
3 sediment is being mobilized into the bay; is  
4 that fair?

5     A     (Swanson) Yes. That's fair.

6     Q     And that duration you have listed here is  
7 assuming that the average rate is a continuous  
8 rate from one side to the other?

9     A     (Swanson) Correct.

10    Q     And based on our discussion a minute ago on the  
11 Construction Panel, am I correct that even if  
12 you had achieved that average rate it's likely  
13 to be longer in total duration of the pull  
14 because of the stoppages that are required for  
15 the lay of anchors or other issues?

16    A     (Swanson) Yes. That's correct.

17    Q     So this is sort of the fastest you could go.

18    A     (Swanson) This would assume that there was a  
19 continuous pull.

20    Q     On the next page, so it's electronic page 22 and  
21 it's report page 9, you have a figure showing  
22 how the rate of advancement affects or interacts  
23 with the tide cycle. Is that a fair  
24 description?

1 A (Swanson) Yes.

2 Q We've heard from the Construction Panel that in  
3 order to get to the farthest extent into the  
4 eastern shore they need to bring the barge in at  
5 high tide. Do you understand that?

6 A (Swanson) Yes. Yes. I heard that as well.

7 Q But some of the different advance rates you've  
8 modeled would actually arrive on the eastern  
9 shore at low tide, it looks like.

10 A (Swanson) Yes. For the one shown it does.

11 Q Okay. And what the Construction Panel testified  
12 is that if they arrive before high tide, they'll  
13 just shut down operations and then wait and then  
14 continue the rest of the way?

15 A (Swanson) Yes. It wouldn't be a full shut down.  
16 What they would do was go into sort of an idling  
17 mode.

18 Q Right. Does that affect the output of your  
19 model if that were the case? That rather than,  
20 so if your model is predicting that the tide is  
21 going to be, well, you're going to be at a tide  
22 cycle other than high tide, would that affect  
23 the direction of whether you're in ebb or flood  
24 and the direction of the sediment transfer?

1 A (Swanson) Yes. So if it's in the ebb it would  
2 be going towards the north, to the north in  
3 Little Bay, and if it were during a flood it  
4 would go to the south.

5 Q Okay. And have you looked at that possibility  
6 of achieving perhaps the desired speed across  
7 the bay, but then having to wait and do some  
8 additional jetting at a different tide cycle to  
9 get all the way into the eastern shore?

10 A (Swanson) No, I wasn't aware actually that they  
11 needed to land at high tide until I was  
12 attending the Construction Panel.

13 Q Okay. Do you have any concern that that would  
14 significantly affect the output of the model?

15 A (Swanson) Overall, probably not. What the issue  
16 that you may see is that there would be some of  
17 the sediment plume going south during the flood  
18 tide and some going north. Essentially, if we  
19 designed it so that it ended right at the high  
20 tide, then essentially the plow will see both  
21 the flood and the ebb period so that would send  
22 it upstream towards Great Bay.

23 Q Okay. So if we look at the modeling which, I'm  
24 looking at electronic page 56 in Applicant's

1 Exhibit 104 which is page 43.

2 A (Swanson) I'm sorry. 43?

3 Q Yes. And if I have myself straight here, this  
4 is the view of what the sediment plume would  
5 look like at various hours after construction  
6 starting for the Base Case?

7 A (Swanson) Yes. Yes. We term these  
8 visualizations to be snapshots so here's what  
9 you would see at any one time.

10 Q Right. And so I think what you were just saying  
11 is as you move through the hours, you progress  
12 from west to east across the bay, and then this  
13 last, the 7 hours after start plume, am I  
14 correct that that, if you take into account the  
15 timing of landing at a high tide, that actually,  
16 that plume might be moving to the south instead  
17 of to the north?

18 A (Swanson) Right. And that's shown in the  
19 previous figure that you had that it was an  
20 ebbing tide and then it was stopping just after  
21 the slack low.

22 Q Okay. And that's this kind of last one where  
23 it's moving, there's a small residual bit that's  
24 to the south.

1 A (Swanson) Correct.

2 Q So is it possible that that would be a larger  
3 amount of sediment that's moving south towards  
4 Great Bay if the tide, if they've had to stop  
5 and wait for high tide?

6 A (Pembroke) I think if you refer back to the  
7 original model where the passage took twice as  
8 long to get a sense of what the southward  
9 flowing plume would look like.

10 Q Right. So in the initial model, the timing, it  
11 was, I think, a hundred meters per hour?

12 A (Pembroke) Yes.

13 Q And the timing would land them at the high tide?

14 A (Pembroke) Yes.

15 Q So that original model which may be somewhere in  
16 this document, but it's also in the prior  
17 document.

18 A (Pembroke) In the prior document.

19 Q Shows sort of the extent of that potential  
20 southern --

21 A (Pembroke) Yes.

22 Q Okay. So I think that's somewhat shown in this  
23 figure which is on report page 47. It's  
24 electronic page 60.

1 A (Pembroke) Yes.

2 Q This is a similar, similar to the mixing zone  
3 figure we saw before. This represents the sort  
4 of greatest extent of the plume at any given  
5 time?

6 A (Pembroke) Yes.

7 Q So we do see the plume moving south on the  
8 eastern end of the bay, and would I be correct  
9 that the shading would be higher concentrations  
10 in that southern plume if you took into account  
11 the tide cycle?

12 A (Swanson) It would be more that the extent would  
13 continue more. It still should be the same  
14 shade.

15 Q So it may extend further down towards Great Bay  
16 but not be a higher concentrations; is what you  
17 would predict?

18 A (Swanson) Well, the different contour lines  
19 would be extended further south, and as you can  
20 see, right along the route, the concentrations  
21 are high because most of the material that is  
22 being mobilized actually falls back into the  
23 route.

24 Q Right. And so the red and orange or red and

1 yellow coloring is the higher concentrations of  
2 sediment and that's all, more or less right  
3 where the plow is taking place?

4 A (Swanson) Yes.

5 Q But there's transfer of that sediment at lower  
6 concentrations farther away from the corridor?

7 A (Swanson) Correct.

8 Q Now, you have, if we go down to two more pages,  
9 I think, yes, on page 49, it's electronic page  
10 62, you've put together the area of the Little  
11 Bay that would be exposed to varying  
12 concentrations. Is that what this diagram is?

13 A (Swanson) Yes, it is.

14 Q And this is on an hourly basis; is that right?

15 A (Swanson) This is using the picture that you  
16 showed before, Figure 3-10, that shows the time  
17 integrated, not the snapshot look, of what  
18 things are going on, and from that information  
19 we were able to estimate a duration, but that  
20 duration is not necessarily totally continuous.  
21 It's just over the course of the simulation an  
22 individual spot in the bay is going to see a  
23 certain concentration level, and then we just  
24 added up all the time steps in which that

1 concentration appeared. So that's the duration  
2 calculation that we used.

3 Q And am I correct that this shows, you know, your  
4 X axis is showing minutes of duration but it's  
5 in hour blocks?

6 A (Swanson) Correct.

7 Q So that if a particular area of the bay were to  
8 observe a concentration of say a thousand  
9 milligrams per liter for 50 minutes, it wouldn't  
10 show up on this chart at all.

11 A (Swanson) No. Not on this chart.

12 Q This only shows that things that occur for at  
13 least an hour.

14 A (Swanson) No. No, actually, this is the  
15 complete, the higher concentrations last for  
16 much shorter period, and so actually if you look  
17 at the table right below that which provides the  
18 numbers that are shown in the histogram, you can  
19 see that concentrations of a hundred do not last  
20 even as long as one hour. So they're shorter  
21 than that. And any concentration higher than a  
22 hundred would have an even shorter duration.

23 Q Right. But my point is that if a concentration  
24 occurs for less than an hour, it doesn't appear

1 in this diagram.

2 A (Swanson) Correct. Yes.

3 Q And there are concentrations that are higher  
4 than a hundred milligrams per liter predicted  
5 but for short duration?

6 A (Swanson) That's correct. Yes.

7 Q Less than an hour.

8 A (Swanson) Right.

9 Q So I want to go back to the monitoring plan for  
10 a minute and kind of make sure we all understand  
11 the proposal, and I guess this is subject to a  
12 little bit of change because the mixing zone  
13 itself is subject to updating?

14 A (Pembroke) Yes.

15 Q Is the environmental monitoring plan going to be  
16 updated as well other than the change in the  
17 mixing zone?

18 A (Pembroke) Yes. It will be updated. We've had  
19 conversations with DES, and they've started to  
20 indicate specific things that they want to make  
21 sure we include in there. Considerably more  
22 detail about how they will be undertaken.

23 Q When were those conversations taking place?

24 A (Pembroke) In the last month or so. July, I

1 guess.

2 Q Couple weeks.

3 A (Pembroke) I lose track of time.

4 MR. IACOPINO: Can I just ask a quick  
5 question? All of this centers around what's  
6 Condition number 41?

7 A (Allen) I was just looking for the condition  
8 that's relevant. It is 44 and 45 are the two  
9 that relate to water quality monitoring in  
10 Little Bay.

11 MR. IACOPINO: Thank you.

12 Q So this is Applicant's Exhibit 166 on page 12,  
13 what's listed as page 12 of 25, and it's  
14 condition 44 and 45, and the first one, 44 deals  
15 with the mixing zone plan and as we've discussed  
16 a minute ago you're going to submit a mixing  
17 zone request 60 days in advance of construction,  
18 and I don't see a specific request for revised  
19 mixing zone in this condition, but it sounds  
20 like that's something that's been discussed.

21 A (Pembroke) Yes.

22 Q Okay. And then the Water Quality Monitoring and  
23 Adaptive Management Plan is to be submitted  
24 prior to construction by 90 days and is that

1 where you're talking about adjustments to the  
2 environmental monitoring?

3 A (Pembroke) Yes. More specificity as to how that  
4 will undertake. It's a pretty complex plan  
5 because of the large number of stations that  
6 need to be occupied pretty much simultaneously.

7 Q Okay. So these parameters that they're listing  
8 in the Permit Condition 45 are some of the  
9 additional detail that you anticipate providing?

10 A (Pembroke) Yes.

11 Q It goes on for a while.

12 A (Pembroke) Yes, it does.

13 Q So subject to that additional detail, the  
14 current monitoring plan is kind of schematically  
15 shown on this document?

16 A (Pembroke) Yes.

17 Q This figure which is Applicant's Exhibit 129,  
18 and it's electronic page 6 and it's report page  
19 5, and so if I understand, just for expediency  
20 I'll try and summarize and please correct  
21 anything I get wrong. The red dots are  
22 representing the mobile sampling stations, and  
23 those are along the border of the mixing zone;  
24 is that right?

1 A (Pembroke) Yes.

2 A (Allen) Yes.

3 Q So if the mixing zone changes, those will follow  
4 the edge of the mixing zone?

5 A (Pembroke) Yes.

6 Q And the mobile sentries are essentially a crew  
7 on a boat that is sampling at those locations?

8 A (Pembroke) Yes.

9 Q And do they, if I understand the plan correctly,  
10 that's an hourly sampling?

11 A (Pembroke) That's the plan.

12 Q And so the boat will move along following the --  
13 well, I guess that's the question.

14 Do the boats move along the edge of the  
15 mixing zone and take a sample every hour or do  
16 they just go to the location that they  
17 anticipate being the correct location for an  
18 hourly sample and take that sample there?

19 A (Pembroke) We will have multiple crews to ensure  
20 that we haven't inadvertently missed the time  
21 that, you know, that the plume reaches the  
22 particular area.

23 Q Is that some of the detail that is to be  
24 determined with DES?

1 A (Pembroke) Yes.

2 Q So you've got the mobile stations along the  
3 edge, and then you have the blue dots which are  
4 the sentry stations?

5 A (Pembroke) Yes.

6 Q And if I understand the purpose of the sentry  
7 stations, it's to get a sort of advanced sense  
8 of the plume before it hits the edge of the  
9 mixing zone?

10 A (Pembroke) Yes.

11 Q And those are also crews on the boat that are  
12 positioned?

13 A (Pembroke) Yes.

14 Q Okay. And then in addition to those, you have  
15 two fixed stations, the green dots?

16 A (Pembroke) Yes.

17 Q Okay. And those, are those manned or personed  
18 stations or are those just like a buoy floating  
19 with a device that's monitoring?

20 A (Pembroke) Those will be a fixed  
21 instrumentation.

22 Q Okay. And that, do you understand correctly  
23 those are continuing sampling stations?

24 A (Pembroke) Yes.

1 Q And what are they sampling for?

2 A (Pembroke) Turbidity.

3 Q Just turbidity?

4 A (Pembroke) Well, they can also collect DOs,  
5 salinity, temperature.

6 Q Are any of these stations limited to just  
7 turbidity measurements or are they collecting  
8 broader samples for testing?

9 A (Pembroke) They're collecting broader samples  
10 for testing. So they'll be water sampling as  
11 well as instrumentation.

12 Q And then it appears you also have locations, the  
13 purple dots that are at the southern extent of  
14 the various shellfish permitted or licensed  
15 areas; is that correct?

16 A (Pembroke) I'm sorry.

17 Q That's all right.

18 A (Pembroke) I haven't memorized the details, I'm  
19 afraid, and I don't have the plan in front of  
20 me.

21 A (Allen) Those will change simply because we're  
22 no longer sampling, or we're no longer extending  
23 the mixing zone to include aquaculture sites.  
24 So, for instance, the one at Tim Henry which is

1 very close to a mobile station will probably go  
2 away since we won't need to understand what's  
3 happening on his, specifically, at his location.

4 Q Subject to change working with DES going  
5 forward?

6 A (Allen) Right.

7 Q And the point of all the sampling is to  
8 understand, well, with the sentry stations it's  
9 to understand what's happening to make  
10 adjustments during the run of the plow; is that  
11 fair?

12 A (Pembroke) They can potentially be used that  
13 way.

14 Q So if a plume, if you took a sample at a sentry  
15 station which is inside the mixing zone, because  
16 it's inside the mixing zone there's no  
17 exceedance of any water quality standards; is  
18 that right?

19 A (Pembroke) That's correct.

20 Q But if you saw a concentration that was higher  
21 than predicted, that information would be  
22 relayed to the plow team?

23 A (Pembroke) Yes. To the independent  
24 environmental monitor who will be likely located

1 on the plow barge, and that person has the  
2 authority to instruct the construction crew to  
3 change their operations.

4 Q Okay. And I think we heard from the  
5 Construction Panel that changing operations is  
6 potentially slowing down the rate of advancement  
7 or reducing the jetting pressure?

8 A (Pembroke) Yes.

9 Q With the goal of reducing the amount of sediment  
10 that's being mobilized?

11 A (Pembroke) That's correct.

12 Q And you said if there was a high concentration  
13 reported at a sentry station, it would be  
14 reported to the independent monitor. At what  
15 point does that information get sent to DES as  
16 well?

17 A (Pembroke) Well, we'd be issuing a report on the  
18 outcome of the day's monitoring.

19 Q Go ahead.

20 A (Pembroke) I was going to say. Remember, we  
21 will be conducting water quality monitoring  
22 during the trial jet plow run so that  
23 information will reach DES within less than a  
24 week of the actual jet plow run and will be used

1 to inform decisions prior to the actual  
2 construction passage. So hopefully, that will  
3 help us avoid any potential violations during  
4 the actual installation.

5 Q Okay. Thank you. With regard to the jet plow  
6 trial run, I think you testified yesterday that  
7 it's a thousand foot run that's going to start  
8 somewhere near the eastern end of the western  
9 tidal flat?

10 A (Pembroke) Yes.

11 Q So on this diagram, is that in the vicinity of  
12 the word "cable"?

13 A (Pembroke) I would say so, yes.

14 Q It's going to run a thousand feet to somewhere  
15 into the middle of the channel?

16 A (Pembroke) Yes. We wanted to capture both depth  
17 and sediment conditions to make sure that we had  
18 a good understanding of how the plume behaved.

19 Q And will you use the same monitoring positions  
20 that are shown here or is that something that's  
21 going to be adjusted specifically for the jet  
22 plowing trial run?

23 A (Pembroke) We'll have to adopt it to the trial,  
24 position of the trial.

1 Q Same basic idea.

2 A (Pembroke) Same basic idea.

3 Q Thank you. If the jet plow trial run were to  
4 show for some reason that the model is  
5 drastically underpredicting the amount of  
6 sediment, what happens then?

7 A (Pembroke) Well, I mean that, I believe that the  
8 construction crew, I don't know if they said  
9 this during their testimony, but they've  
10 indicated to us that they are, they'll certainly  
11 be using the trial run as a test case for how to  
12 operate the plow, jet plow, and they do have one  
13 additional alternative to modifying equipment  
14 and that would be to plug some of the upper jets  
15 which will really reduce fluidization of the  
16 uppermost sediments which are the ones that  
17 could be suspended into the water column. So I  
18 think that would be the first thing that would  
19 be attempted. And if that doesn't satisfy DES,  
20 then I don't have an immediate answer to that.

21 Q Okay.

22 A (Pembroke) Serious discussions will take place.

23 Q Okay.

24 A (Allen) We have had some discussions already

1 with DES about that condition, and my sense from  
2 them is that they have confidence in this model  
3 to not expect it to be drastically off. We know  
4 that it won't be exactly on, but they don't  
5 expect it to be drastically off. And I also  
6 think that they kind of covered that issue by  
7 their condition, I'm not remembering which one  
8 it is, but it refers to mitigation as needed in  
9 terms of Little Bay.

10 Q So that would be after-the-fact mitigation?

11 A (Allen) It would be.

12 A (Swanson) I can also add that the feedback we  
13 get from the actual operators and/or other  
14 people that have been involved in these sorts of  
15 studies is that the mobilization rate that we  
16 used of 25 percent and then we did higher and  
17 lower, but the 25 percent appears to be  
18 conservative based on their experience, and they  
19 think that the rate is closer to the 10 percent  
20 as opposed to the 25.

21 Q I understand. Thank you.

22 I want to turn briefly to concrete  
23 mattresses. We've heard a lot about them. At  
24 this point I think there's some confusion may

1 not be the right word, but there's some  
2 ambiguity in the record about how the concrete  
3 mattresses will be overlapped with each other or  
4 proposed to be overlapped. We heard from the  
5 Construction Panel that some amount of overlap  
6 is required or is proposed from one mat to the  
7 next, and I think they were talking about on the  
8 long axis so looking at a single cable you would  
9 have one mat and then the next mat up across the  
10 bay would overlap the end of that mat, but I  
11 think there may also be some overlap proposed  
12 laterally between mats at the near shore area  
13 where the cables are close together. Is that  
14 your understanding of where the overlaps will  
15 be?

16 A (Pembroke) We posed the question to the  
17 Construction Panel after they left the stage,  
18 and they have reexamined that and have told us  
19 that in the near shore area, they actually will  
20 be able to essentially lace the concrete  
21 mattresses together so that it will not be  
22 necessary to overlap, and they feel that they  
23 can protect the cables adequately that way.

24 If we happen to have to place some

1 mattresses in the channel, they do still have a  
2 concern that they would have to overlap because  
3 their concern is the possibility of boat anchors  
4 penetrating the space between the mattresses and  
5 interacting with the cable.

6 Q Okay. So it sounds like, as of today at least,  
7 the understanding is no overlap in the near  
8 shore tidal flat area, but if there are any mats  
9 in the deeper part of the channel, then they  
10 would overlap.

11 A (Pembroke) Yes.

12 Q Okay. Thank you. Has your team given any  
13 consideration of embedding the concrete mats  
14 into the bay floor?

15 A (Pembroke) The team overall has considered that,  
16 and our understanding from the construction  
17 folks is that they'll remove soft sediments to  
18 the degree that they can, but that will be the  
19 limit of the embedment that they could achieve  
20 in the near shore area. They had investigated  
21 the idea of breaking up the underlying rock and  
22 felt that that was not particularly feasible.

23 Q Okay. But if there's a layer of sediment above  
24 rock that is preventing the full burial, rock

1 would be preventing full burial.

2 A (Pembroke) Right.

3 Q My recollection from some of the probing is that  
4 there's often a foot or so of sediment.

5 A (Pembroke) Yes.

6 Q Do I understand correctly that that sediment  
7 could be removed so that the mats sink down into  
8 the floor a little bit?

9 A (Pembroke) Yes. I think that's the goal to  
10 remove the soft sediment so that the mats are as  
11 low as possible.

12 Q Okay. And the mats are at 9 inches tall?

13 A (Pembroke) Yes.

14 Q So in locations where there's 9 inches or more  
15 of sediment on top of whatever the construction  
16 is do you anticipate that the mats could be  
17 lowered to be even with the floor of the bay?

18 A (Pembroke) I think that there might be a bit of  
19 a hump because the cable has to be, the  
20 underside of the cable would have to be  
21 protected so there would be a little bit of a  
22 hump over the cable, but the edges of the mat  
23 should be pretty much consistent with the  
24 adjacent bathymetry.

1 Q Is there any --

2 A (Allen) Can I add a little bit to that? My  
3 understanding from the contractors is that that  
4 is a possible goal but field conditions very  
5 much dictate whether or not they can achieve  
6 that. So for our planning purposes, we've  
7 planned for kind of worst case of no burial. We  
8 expect that actual condition to be somewhat in  
9 between no burial and full burial.

10 Q Okay. And my recollection is that the western  
11 tidal flat seemed to have more sediment on top  
12 of rock and that the eastern has some  
13 outcroppings where it may be difficult in  
14 achieving any burial?

15 A (Allen) Correct. We expect more concrete  
16 mattresses on the east shore.

17 Q From an environmental perspective, is there any  
18 concern with that disturbance of the sediment in  
19 the location of the concrete mattresses to  
20 achieve burial?

21 A (Pembroke) Well, I mean, I think that's covered  
22 in the analysis of hand jetting, and the  
23 majority of that will be enclosed with silt  
24 curtains. So in terms of water quality

1 concerns, that will limit that possibility.

2 Q Okay. In terms of benthic infauna or other  
3 organisms that are living under that area?

4 A (Pembroke) Yes. Well, they won't be happy. So  
5 we acknowledge that it's a permanent change in  
6 benthic habitat conditions.

7 Q Is that the case whether or not you bury or try  
8 to embed the mattresses?

9 A (Pembroke) Yes.

10 Q So attempting to bury wouldn't have a greater  
11 impact on the benthic community?

12 A (Pembroke) No.

13 Q Thank you. I think my last question has to do  
14 with the heating effect of the cables. In your  
15 original Impact report, which is Applicant's  
16 Exhibit 54, there's a discussion of the heat  
17 generated by the cables, and I believe that's at  
18 report page 38 which is electronic page 47, the  
19 last paragraph in Section 5.5 discusses heat  
20 from the cables, and the general discussion is  
21 that it is not anticipated to be a concern  
22 because the cables are buried and the heat won't  
23 impact the bay.

24 A (Pembroke) Right.

1 Q My question is in the shallow portions where you  
2 can't achieve full burial when you're presumably  
3 using concrete mattresses, is there any concern  
4 that the cables could heat up either the top  
5 sediment layers where there are a benthic  
6 community or even the water that would have an  
7 impact on any of the organisms?

8 A (Pembroke) Well, again, the concrete mattresses  
9 will prohibit the use of the underlying  
10 substrate by benthic infauna so there will  
11 essentially be nothing there to be exposed, and  
12 the additional nine inches of the concrete  
13 mattresses should provide some dissipation of  
14 the heat.

15 Q Are there any organisms that are in the area  
16 that are highly sensitive to heat? This says  
17 that you could have the soils heated up to 30  
18 degrees Celsius which is high 80s, I think.

19 A (Pembroke) Right. Well, but it really  
20 dissipates pretty quickly with distance from the  
21 cable so there might be a little warm spot right  
22 over the cable but, again, the tidal currents  
23 keep the water moving generally. So I do not  
24 feel that it will create an injurious or

1 deleterious situation for the organisms that are  
2 mobile in that area.

3 Q Have you had any discussions with either DES or  
4 Fish & Game about that aspect of the Project?

5 A (Pembroke) No. I have not.

6 Q All right. Thank you all very much. I have no  
7 further questions.

8 A (Pembroke) Thank you.

9 MS. BROWN: Madam Chair, I have a question,  
10 and maybe this is something we can work out with  
11 caucusing with attorneys, but I noted that this  
12 week we received a new exhibit, 193, and that  
13 was concerning mitigation, and in the testimony  
14 just now, Ms. Pembroke referenced it which I  
15 would, I guess, technically trigger recross, but  
16 I don't think we want to go there, but I want  
17 clarification of which witness we can  
18 cross-examine on Exhibit 193, whether it's  
19 Mr. Varney or this Panel. Thank you.

20 PRESIDING OFFICER WEATHERSBY: I think  
21 we're going to take a break and try to work that  
22 out and get back to you. Thank you.

23 So we're going to break, come back at  
24 11:00.

1 (Recess taken 10:43 - 11:02 a.m.)

2 PRESIDING OFFICER WEATHERSBY: We'll go  
3 back on the record. Attorney Brown, you wanted  
4 to make a comment?

5 MS. BROWN: Thank you for the break, and my  
6 question was resolved after speaking with  
7 Counsel. Thank you.

8 PRESIDING OFFICER WEATHERSBY: Okay. Thank  
9 you. So we will resume with questions for the  
10 Environmental Panel from the Committee.

11 Mr. Fitzgerald, would you like to start?

12 MR. FITZGERALD: Sure.

13 **QUESTIONS BY MR. FITZGERALD:**

14 Q Good morning.

15 A Good morning.

16 Q My first question is the length of a jet plow  
17 run at a thousand feet. That seems to be 20  
18 percent of the entire Project basically. Is  
19 that length necessary to get all the information  
20 needed to satisfy the objectives of the trial  
21 run from an environmental standpoint? How was  
22 that length selected? Or was that something  
23 that DES asked for.

24 A (Allen) I'm going to take a very high level shot

1 at that. DES recommended that length, and I  
2 know that they based it primarily on what other  
3 Projects have done. 1000 feet is a typical or  
4 is a common jet plow trial length.

5 Q Are the anticipated impacts of the trial  
6 similar, I assume the purpose is to show, to  
7 demonstrate that your anticipated impacts for  
8 the full length run are --

9 A (Allen) Correct.

10 Q -- you know, your assumptions and so on would be  
11 correct?

12 A (Pembroke) Yes.

13 Q Is that length necessary to determine that?

14 A (Pembroke) I think essentially half the length  
15 will cover the area that we're looking for the  
16 shallow burial, and half the length will cover  
17 an area where we're looking for deeper burial,  
18 and it will cover the transition zone in terms  
19 of bathymetry. So I think it is appropriate to  
20 go that distance. And with the ephemeral, with  
21 the dynamic and tidal current situation it will  
22 also allow us to cover a longer part of the  
23 tidal cycle which will be important to  
24 understanding the water quality effects. So I

1 think that it is appropriate.

2 Q Okay. Thank you. The, I believe I heard some  
3 testimony relative to the permit for Fat Dog  
4 Shellfish that indicated that their permit noted  
5 that this Project was going to be happening and  
6 required them to move?

7 A (Pembroke) Not Fat Dog. It was not Fat Dog  
8 Shellfish. It was Nick Brown has got a license  
9 for an area that's a little bit closer to the  
10 Project area.

11 Q Okay.

12 A (Pembroke) And he just received his license last  
13 year when New Hampshire Fish & Game was fully  
14 aware of the project and what we were planning  
15 to do. So they advised him that he should be  
16 prepared to get, essentially, get out of our  
17 way.

18 Q Okay. Mr. Swanson, I believe you testified that  
19 jet plowing was used in connection and actually  
20 went right through oyster beds?

21 A (Swanson) I referred to some information that  
22 was provided by one of the witnesses for the  
23 Counsel for the Public. I had worked on the  
24 Project with him during the modeling, and he had

1 oversight of the entire Project, I imagine,  
2 during the actual operation, and he's the  
3 one that actually made that statement. I  
4 repeated it from what he said.

5 Q Okay. And was the statement relative to any,  
6 you know, are you aware, did he say whether  
7 there were any environmental impacts?

8 A (Swanson) Yes. He did. He said the route went  
9 right through one of the oyster lease areas, and  
10 it had no impact whatever.

11 Q Thank you. There was some discussion about the  
12 factors that led to the selection of jet plow,  
13 and I believe there was a lot of discussion  
14 about sort of trying to prioritize those  
15 factors, one of which was cost. There were  
16 other, I think there were four factors. This  
17 was in Exhibit 133. And I just wanted to  
18 clarify. There really is no way of, those four  
19 factors, as I understand it, are considered  
20 together and that one does not have any priority  
21 over the other?

22 A (Allen) From my perspective, I can't answer to  
23 the engineering aspects of it, but I do know  
24 that all of them were weighed together. I'm not

1           aware that any one was weighted more heavily  
2           than the other.

3       Q     Okay. Mr. Nelson, would you agree with that?

4       A     (Nelson) Yes. I do agree with that. Cost was  
5           in the equation, but really the largest  
6           determinant factor was constructability and risk  
7           were really the major factors for the decision  
8           making there.

9       Q     Thank you. There was also some questioning  
10          relative to the term large IR, incidental  
11          return; is that right? And following that term,  
12          large IR, I noted in the report it went on to  
13          say something about where excessive amounts of  
14          bentonite are released. So I think the  
15          questioning was sort of aiming towards how large  
16          is large, but would you consider that to be a  
17          definition of large that it's when, I think it  
18          went on, it says when excess amounts of  
19          bentonite are released that are carried into  
20          other sections of the bay, I can't remember the  
21          exact wording, but would you sort of say that  
22          that would be the characteristic of what you  
23          would consider to be a large IR would be more  
24          what the impact of it was and when excessive

1 amounts are released? Would that be fair?

2 A (Nelson) I would agree with that, yes. I think  
3 when you say large, it's a relative term, and I  
4 think we think of large that would have long  
5 duration and enough bentonite released that it  
6 would be spread far and wide throughout the bay  
7 and at concentrations or amounts high enough to  
8 smother organisms and have far-reaching effects  
9 throughout the bay. I guess you define a small  
10 IR event as something that would be detected  
11 quickly and contained relatively quickly and  
12 would be contained to a relatively small area.

13 Q So it's possible that there might be one or more  
14 relatively small short duration IRs as opposed  
15 to a major one that went on for, I don't know, a  
16 day or something like that that was somehow  
17 undetected. Is the detect mechanism the  
18 pressure, the back pressure on the system, is  
19 that --

20 A (Nelson) Yes. That's one method. There's also  
21 typically with these operations ongoing  
22 monitoring, visual monitoring. I don't recall.  
23 Our HDD expert had explained to us that there  
24 are occasions where you will not detect the IR

1 from pressure alone or immediately so, and I  
2 can't recall exactly that, I can't, the  
3 reasoning behind that, but he said it's not  
4 always immediately detectable from the pressure  
5 alone.

6 Q On that same line regarding the jet plow  
7 decision, I'm sorry, I forget this, one of the  
8 criteria, one of those four criteria was that it  
9 meets the Reliability requirements. When I read  
10 that, I understood that to be sort of a baseline  
11 requirement that it had to meet the reliability  
12 requirements; i.e., the Project could be built.  
13 And so if it didn't, then the answer would have  
14 been no, we can't use this. But it's not a  
15 criteria that was actually, that was weighed  
16 other than yes, it meets the Reliability  
17 requirements allowing it to be built? Is that a  
18 fair statement?

19 A (Nelson) Sarah, you can maybe chime in here as  
20 well, but I interpret the Reliability phrase to  
21 be referring to adequate protection. A design  
22 that meets code and is adequately protected.

23 Q Okay.

24 A (Nelson) So they may have in the course of some

1 alternatives perhaps some discussion of a direct  
2 lay of a cable across the bay and in its  
3 entirety and that would not meet the Reliability  
4 specifications.

5 MS. LUDKE: Madam Chair, I'm going to have  
6 to object to some of these questions because I  
7 think it prejudices some of the participants in  
8 this hearing. We were not allowed to ask  
9 questions about construction, and I noticed in  
10 the Public Counsel testimony that the Panel  
11 testified quite extensively about construction  
12 techniques, and when I asked questions about  
13 Reliability, there was an objection that these  
14 people were not competent to testify as to  
15 Reliability, and now that I've finished my  
16 questioning they seemed to be very competent to  
17 testify as to construction techniques and  
18 Reliability on other issues.

19 PRESIDING OFFICER WEATHERSBY: So the  
20 objection is overruled. The question was really  
21 concerning the comparison or difference between  
22 the HDD process and the jet plow process. I'd  
23 also just like to say that the purpose of these  
24 hearings is to inform the Committee so that we

1 can make an informed decision. Therefore, I  
2 think that the Committee has some latitude to be  
3 sure that we understand fully the latitude in  
4 questioning so that we fully understand all  
5 aspects of this Application.

6 MR. FITZGERALD: Thank you, Madam Chair.  
7 My intent was to truly understand the questions  
8 that were asked about those. I wanted to  
9 understand the response that was given better so  
10 thank you.

11 BY MR. FITZGERALD:

12 Q My last question is with regards to the bay  
13 crossing, and there was Exhibit 129, there was a  
14 Figure 1.1 that showed the mixing zone that was  
15 put up, and there was a red line that sort of  
16 delineated it, but then there was a yellow  
17 shaded area that was much larger, and I'm not  
18 sure I followed the difference or the  
19 distinction between those two areas. And also,  
20 well, go ahead.

21 A (Allen) Was that your question?

22 Q Well, it also seemed that they were distinctly  
23 different in shape. The red line on the eastern  
24 shore went up fairly high and then came back

1 down fairly close to the shoreline whereas the  
2 yellow area went up and then went all the way  
3 across the bay. So it seemed to encompass a  
4 much larger area.

5 A (Allen) So remind me if I don't get to your  
6 question, but I'm going to give you a little bit  
7 of background.

8 Q I'm trying to understand the difference between  
9 those.

10 A (Allen) Sure. When we put together that mixing  
11 plan, we were thinking about the best way to  
12 show ecological effects in the bay, and for that  
13 reason, we wanted to include the oyster farms  
14 certainly, and we also wanted to be generous in  
15 terms of what we looked at in terms of sampling.

16 DES, because we're proposing to basically  
17 use the 20 milligram per liter modeled line as  
18 our limit of turbidity, DES has asked that we  
19 confine our mixing zone to or closely match that  
20 20 milligram per liter line.

21 A (Pembroke) Which is the red line on the figure.

22 A (Allen) Yes. Which is the red line. Sorry.

23 Q Okay. Thank you very much.

24 A (Allen) Does that answer your question?

1 Q Yes.

2 A (Allen) That line, just to get to another part  
3 of your question, that line varies with distance  
4 across the bay because it's following the  
5 current patterns related to tides and --

6 Q Right, and I noticed that it extended far to the  
7 north along the eastern side.

8 A (Allen) Yes.

9 Q And then in the middle where you would expect  
10 the currents, you know, would follow the  
11 current, it seemed to go up as well.

12 A (Allen) Bump back up, yes.

13 Q I wanted to better understand the difference  
14 between the shaded and the red. Thank you.

15 A (Nelson) If I may, I'd just like to add one more  
16 component to it as well. In our discussions  
17 with the DES, as you mentioned, the red line  
18 indicates our compliance area for total  
19 suspended solids. In our discussions with DES,  
20 they requested that we have a more refined  
21 mixing zone boundary with respect to toxics, and  
22 those are some of the metals that we are, that  
23 are proposed within our monitoring plan as well,  
24 and I believe the number was basically a

1 standard 500 foot or so mixing zone for those  
2 elements in the monitoring plan.

3 Q Thank you for that clarification. All set,  
4 Madam Chair.

5 PRESIDING OFFICER WEATHERSBY: Director  
6 Muzzey?

7 **QUESTIONS BY DIR. MUZZEY:**

8 Q Just a few questions following up on some of the  
9 mapping questions that we heard about and the  
10 idea that perhaps some of the environmental  
11 mapping did not have updated layers on it.  
12 Thinking in particular of the historical  
13 resource layer, can you just describe what the  
14 purpose was for putting the historic resource  
15 layer on the environmental maps?

16 A (Allen) The original purpose was to identify  
17 what we knew about historic layers based on  
18 public information. We elected to leave it on  
19 as the Project progressed simply because taking  
20 it off seemed like a bad choice, too, but we  
21 fully recognize that they are not a complete  
22 layer.

23 Q So that layer was from GRANIT?

24 A Yes.

1 Q And within the GRANIT system, with each of the  
2 layers that are publicly available, is there  
3 information that describes the nature of the  
4 data and its sources and that type of thing?

5 A (Allen) To some degree. It varies on depending  
6 on the layer you were looking at.

7 Q So we could refer to that to understand the  
8 data, the sources of that material?

9 A (Allen) Yes. We actually, when, this discussion  
10 has been coming up on and off through the course  
11 of the Project, and we've gone back and looked  
12 to see if it's been updated, and my recollection  
13 at least in that area is that I don't think any  
14 new areas were added or any changes were made  
15 that we picked up on.

16 Q Now, are the Historical and Archeological  
17 consultants subconsultants to Normandeau?

18 A (Allen) The Archeological one is. The Historic  
19 one is not.

20 Q Is not. But they are part of the Project team?

21 A (Allen) They are.

22 Q So is it your expectation that those consultants  
23 would have the most up-to-date information as to  
24 where resources exist?

1 A (Allen) Yes.

2 Q Historical and archeological resources in that  
3 case.

4 A (Allen) Yes.

5 Q I'm just thinking moving forward to the phase of  
6 construction mapping, and will there be a  
7 process in place to ensure that the information  
8 for all types of resources on the construction  
9 mapping has been integrated and is the most up  
10 to date possible?

11 A (Allen) Yes. There will be.

12 Q Could you describe how that happens?

13 A (Allen) The way I envision it happening is that  
14 we will put together these construction maps  
15 that show features that they need to either  
16 address specifically or be aware of in the  
17 field, and we will circulate that to the team  
18 for their guidance. So if we've missed  
19 something, I've actually made myself a note to  
20 talk to the historic folks about the best way to  
21 incorporate the features we need to incorporate  
22 on the construction maps.

23 Q And when you say "the team," could you just  
24 describe who's all on the team?

1 A (Allen) The team includes all of the consultants  
2 who have testified or are in the process today  
3 as well as some Eversource team members who are  
4 not on these panels, including engineers, the  
5 Project Manager. I'm sure there are others I'm  
6 not thinking of.

7 Q Okay. Thank you.

8 A (Nelson) I can add to that a little bit as well.  
9 Our process that we've employed on similar  
10 Projects, for example, MVRP. What we employed  
11 was involving the contractor representatives,  
12 involving outreach people, involving the  
13 environmental people, and we'd also have our  
14 people responsible for the cultural resources  
15 protections involved in preconstruction  
16 walkdowns of the right-of-way corridor.

17 So what we did on Merrimack Valley was we  
18 had a very well-planned-out schedule. Before  
19 any work is performed in any section of  
20 right-of-way, a preconstruction walkdown was  
21 undertaken by all the parties that would be  
22 involved in that area.

23 As the Environmental team, the people  
24 responsible for Cultural Resources, as new

1 information is gathered throughout the course of  
2 the Project that would be the time to make sure  
3 that we have the most up-to-date information in  
4 our mapping, that all sensitive areas,  
5 sensitivity areas, environmental, cultural,  
6 property owner sensitivity areas, any Project  
7 concern areas is identified during that, and any  
8 potential, you know, issues can be identified  
9 before the construction takes place in the  
10 field.

11 Q Are mitigation commitments discussed as well at  
12 that point?

13 A (Nelson) Mitigation would typically happen  
14 postconstruction. Are you referring to, say,  
15 for example, landscape mitigation or are you,  
16 you're talking avoidance and minimization?

17 Q Avoidance and minimization.

18 A (Nelson) Right. Yes. So yes.

19 Q Thank you.

20 MR. IACOPINO: Can I have a followup  
21 questions on that?

22 Has Normandeau been retained through the  
23 construction phase if the Certificate is  
24 granted?

1 A (Nelson) That's our anticipation, yes.  
2 Normandeau will have a role as part of our  
3 environmental monitoring for this Project.

4 MR. IACOPINO: Thank you.

5 BY DIR. MUZZEY:

6 Q Earlier we had heard that the environmental  
7 monitors hadn't yet been contracted with and  
8 there wasn't a certainty as to who that would  
9 be. Has there been some new information?

10 A (Nelson) I can clarify a little. It's typically  
11 our standard practice that the environmental  
12 consultant who helps us through the permitting  
13 process is typically the ones who will be  
14 involved with environmental monitoring as well.  
15 It's not a hard and fast rule, but at this  
16 point, like I said, as far as our contracts are  
17 concerned, I don't know if we've officially  
18 contracted or not. That's certainly my  
19 preference would be to keep, retain Normandeau  
20 on the Project.

21 There will be other environmental monitors  
22 as well. The DES conditions require that we  
23 have a fully independent monitor for all work in  
24 Little Bay so that will be what we consider a

1 third-party monitor. They would be paid for by  
2 Eversource but report directly to DES.

3 For the terrestrial portions of the  
4 Project, that's where we envision Normandeau  
5 taking the lead with respect to environmental  
6 compliance, primarily from the wetlands  
7 standpoint and those sorts of things.

8 We also, our overhead and contractors and  
9 contractor working on some of the undergrounding  
10 portions of the terrestrial portions of the  
11 Project have also retained their own  
12 environmental monitor with respect to soil and  
13 groundwater issues.

14 Q Thank you. Thinking a little further along this  
15 idea of a very integrated approach to all of the  
16 resources and things such as the Best Management  
17 Practices, the different treatment plans,  
18 avoidance, minimization, mitigation needed for  
19 the different resource types, all of those  
20 things for, say, the natural resources concerns  
21 for this Project, have those been reviewed by  
22 also the Historical and Archeological  
23 consultants to see whether they pose any type of  
24 concern for those types of resources?

1 A (Allen) We have, Kurt may be able to answer this  
2 in a slightly different way, but from my  
3 perspective, I have coordinated with Vicky  
4 Bunker relative to the location of underground  
5 areas we need to avoid to make sure I'm fully  
6 aware of those. We will obviously as part of  
7 this construction mapping be coordinating with  
8 the Cultural folks as well, the Historic folks,  
9 to make sure that we're clear on how we're  
10 treating stone walls and some of the other  
11 features that we need to address from a historic  
12 perspective.

13 Q Can you explain the timing there? Why there  
14 would have been coordination for archeology at  
15 this point but not yet for the aboveground  
16 resources?

17 A (Allen) Not really. It does need to occur, and  
18 we're aware of many of the issues. We just have  
19 not gone through that complete coordination yet.

20 Q Did you have any other information to add,  
21 Mr. Nelson?

22 A (Nelson) No. I wasn't, I guess I'm not a  
23 hundred percent, if you could restate the  
24 question again. I guess I'm a little bit not

1           sure what's being discussed here.

2           Q    Ms. Allen was talking about how she had  
3                coordinated with the archeological consultants  
4                and had a good understanding of the needs for  
5                archeological resource protection in this  
6                Project but that hadn't been yet done for the  
7                aboveground resources.  So I just wondered about  
8                the timing of that and was there a particular  
9                reason or just hadn't been done yet?

10          A    (Nelson) I would guess, when we're talking about  
11                aboveground resources I assume we're talking  
12                about stone walls and foundations, that sort of  
13                thing?

14          Q    Well, there are a number of Historic Districts  
15                that the Project travels through as well as the  
16                typical historic buildings and neighborhoods and  
17                that type of thing that we see, the cable  
18                houses, there's --

19          A    (Nelson) Right.  We can certainly reach out to  
20                the aboveground experts for their input.  With  
21                respect to aboveground resources, I think the  
22                avoidance and minimization for those is fairly  
23                straightforward.  I think our biggest challenge  
24                obviously is stone walls, and we have done

1 extensive work to map those areas and those  
2 stone walls. It raises a good point that there  
3 should be that consultation with the aboveground  
4 historic people with regards to those resources.

5 Q Thank you. Earlier you had mentioned, and I  
6 know you're not an archeologist, and if you  
7 can't answer it, that's fine.

8 A (Nelson) Okay.

9 Q But you mentioned that methods were in place to  
10 protect sensitive archeological resources,  
11 particularly if heavy trucks are involved, but  
12 could you describe what those methods are or  
13 direct me to where we could get that  
14 information?

15 A (Nelson) The, I'm aware, I don't have off the  
16 top of my head the full understanding of every  
17 sensitive archeological area. I'm aware of a  
18 few. I'm aware of the historic foundation area  
19 in a section.

20 Q I'm thinking more about the methods to protect  
21 those than the exact areas. I wouldn't expect  
22 you to memorize all the sites.

23 A (Nelson) Okay. So methods are avoidance, so in  
24 particular, for example, the sensitive resource

1 in the area, it's just a matter of locating the  
2 access path around that sensitive area and  
3 allowing for a wide enough buffer around that  
4 particular area. I don't have direct knowledge  
5 of sensitivity areas that we're crossing  
6 directly over at this time. That may be a  
7 possibility. I'm not sure. We would look to  
8 employ methods such as timber matting and those  
9 sort of things. I know that their concern is  
10 with that is ground disturbance, not causing any  
11 ground disturbance.

12 So, again, I'm not fully prepared to speak  
13 to the exact, the specific avoidance and  
14 minimization at every location, but I do know  
15 those sensitive archeological areas are  
16 identified, and there will be plans in place  
17 with respect to avoidance.

18 If it's an area that has potentially  
19 shallow archeological resources, then certainly  
20 the approach there is to mat over that area  
21 without soil disturbance. If that can't be  
22 accomplished then other alternatives are, to,  
23 for example, put down geotextile fabric and put  
24 fill on top of that area.

1 Q Thank you. I had talked with the Construction  
2 Panel about some of the timber matting that will  
3 occur with the stone walls, and recognizing that  
4 timber matting first became an available tool or  
5 a method for wetland protection, the  
6 Construction Panel seemed amenable to doing some  
7 monitoring of how effective timber matting is  
8 for stone walls and their protection. Before  
9 and after photos, reporting, possible  
10 reconstruction if damage had occurred.

11 Do you know whether the Applicant would be  
12 willing to do that for any timber matting that  
13 may be needed for archeological sites as well?

14 A (Nelson) Yes. That would be reasonable. Yes.

15 Q Okay. Thank you.

16 There was some discussions of the Frink  
17 Farm and the access roads that will be used  
18 under, through the corridor on the Frink Farm.  
19 And could you remind me how large those access  
20 roads well be? Just a typical access road would  
21 be helpful.

22 A (Allen) There are double access roads proposed  
23 in the Frink Farm, and each access road is 16  
24 feet wide so it will be a total of 32 feet.

1 Q And in my memory now, that's sort of a field  
2 area, some scrubby vegetation. I guess there  
3 are wetlands there, a brook crossing.

4 A (Allen) Um-um.

5 Q What will the access roads look like and how  
6 will that affect its current appearance?

7 A (Allen) They will, going through the wetland,  
8 they will be on timber mats. There's a timber  
9 mat crossing or possibly a culvert, I'd have to  
10 check, for getting over the small stream.

11 And then as it gets into the field, I  
12 believe they are still on timber mats just to  
13 avoid compaction, but I'd have to check my notes  
14 or check with the folks who are dealing with it,  
15 the upland portion of it. I'm focusing  
16 primarily on wetlands.

17 Q Sure. So your expectation is that after  
18 construction is complete and access is no longer  
19 needed, those timber mats will be removed?

20 A (Allen) Yes.

21 Q And will anything be done to restore the  
22 landscape there?

23 A (Allen) That's done on a case-by-case basis. It  
24 depends on whether or not the timber mats have

1 made a long-term impact. If they're removed  
2 quickly or if there's no compaction from the  
3 timber mats, they're often just left to allow  
4 the natural seed bank to reestablish. If  
5 they're exposed soils, it would be mulched and  
6 stabilized.

7 A (Nelson) I can maybe add a little more to that  
8 as well. We have in the site specific Soil and  
9 Groundwater Management Plan that we prepared for  
10 the Frink Farm that was agreed to under an MOU,  
11 and that Soil and Groundwater Management plan  
12 spoke to potential issues with PFCs in the  
13 vicinity of the Pease Air Force base, but we  
14 also have a component of that plan that deals  
15 with maintain the agricultural integrity of  
16 soils in that area, too.

17 So we understand that the intent is to make  
18 sure that that area is restored back to suitable  
19 hay field, and the plan does include an element  
20 for trying to scarify and re-aerate soil that  
21 might be affected by compaction in that area.  
22 In the upland. I think maybe Sarah was really  
23 speaking more specific to wetlands.

24 Q Sure.

1 A (Nelson) And I'm generally speaking about the  
2 hay field area. I also believe there's also as  
3 part of gaining land rights for the Frink Farm  
4 property, there was a scope of work agreed to, a  
5 betterment of the Frink Farm area in order to  
6 amend the conservation easement that's on that  
7 property, and there's a decent size scope of  
8 work that's at the discretion of Rockingham  
9 County Conservation District and the Frinks with  
10 respect to hay field rejuvenation activities  
11 like that.

12 Q Who were the signatories on the MOU?

13 A (Nelson) Let me see. So the MOU that we have is  
14 actually, I believe we have more than one MOU --

15 Q Okay.

16 A (Nelson) -- with the Frinks. I think we have  
17 one relative to amending the conservation  
18 easement, and then we have a second MOU relative  
19 to soil and groundwater management.

20 Q So I was thinking of the second MOU then.

21 A (Nelson) That would be, I believe it is signed  
22 by Rockingham County Conservation District. I  
23 believe the Frinks are signatory on that as well  
24 and Eversource.

1 Q Okay. Thank you. So my last question is a  
2 departure from all of that, and it's thinking  
3 about the northern and southern alternatives to  
4 the chosen alternative for the Project, and the  
5 Application materials describe that detailed  
6 routing analysis was done for all three of those  
7 alternatives and including environmental  
8 impacts, probable environmental impacts for all  
9 three alternatives. Could you just give us a  
10 little -- there was just really one sentence on  
11 that. Could you give us a little more  
12 information about the nature of the  
13 Environmental review that was done for the  
14 northern and southern alternatives?

15 A (Allen) I can speak a little bit to that. I  
16 actually was only involved sort of peripherally  
17 on that analysis. Most of the Environmental  
18 work was done by the engineering firm because it  
19 was a remote sensing exercise or relying on  
20 remote data.

21 Q What do you mean by "remote data"?

22 A (Allen) They relied on existing information  
23 primarily from GIS. So they were looking at  
24 wetlands, wetland types, soils and soil types,

1 water body crossings, things of that nature. So  
2 it was more of a quantitative or mapping  
3 exercise rather than a field exercise.

4 Q Do you know if there's any information on the  
5 record about that exercise that would give us a  
6 little more detail?

7 A (Allen) I do not know. I can ask and get back  
8 to you. I suspect that there is, but I would  
9 have to find it and give you the citation for  
10 it.

11 Q Okay. Thank you.

12 PRESIDING OFFICER WEATHERSBY: If I could  
13 follow up on that, do you have a sense of the  
14 environmental impacts of the northern or  
15 southern alternatives?

16 A (Allen) It has been a long time since I've  
17 looked at that information so I would hate to  
18 answer that right now.

19 PRESIDING OFFICER WEATHERSBY: I  
20 understand. Thank you.

21 A (Allen) Is there a specific question you're  
22 looking for.

23 PRESIDING OFFICER WEATHERSBY: No. I was  
24 just trying to get a sense of the total

1 environment. Those routes were longer and also  
2 involve river crossings, et cetera, but it does  
3 avoid Little Bay so I was trying to get a sense  
4 of the environmental impacts of each route at a  
5 high level.

6 A (Allen) I can tell you that the southern route  
7 does not completely avoid Little Bay. It  
8 crosses the Squamscott River and some fairly  
9 extensive salt marshes there so that definitely  
10 came up for conversation.

11 PRESIDING OFFICER WEATHERSBY: Thank you.  
12 Mr. Way.

13 **QUESTIONS BY DIR. WAY:**

14 Q Good morning.

15 A Good morning.

16 Q Lot of information over the last few days. I  
17 think my questions seek to clarify it in my own  
18 mind, fill in some of the gaps where I see them.  
19 So I might be a little bit over the map here.

20 I guess the first one I wanted to talk  
21 about, Director Muzzey mentioned the integration  
22 between the environmental piece and the  
23 construction piece. And so Ms. Allen, when you  
24 look at all the different species that you're

1 addressing in this Project, and when we talk  
2 about avoidance and mitigation, and maybe we  
3 just focus on avoidance, it ends up being,  
4 you'll address this species by avoiding at a  
5 certain time of year, this species by a certain  
6 time of year to accommodate either breeding or  
7 habitat or whatever.

8 And so apart from the impact, just the raw  
9 scheduling, is that translating well with the  
10 construction schedule? In other words, you have  
11 a set schedule; can it accommodate what the  
12 Environmental Panel has actually put in place?

13 A (Allen) That's a really good question, and it's  
14 complex. Yes, the construction team is aware of  
15 these needs, and it's being factored into the  
16 construction plan. So yes, the construction  
17 BMPs include feasible time-of-year restrictions.

18 Q Very good. And Ms. Pembroke, I imagine from the  
19 underwater portion most of it depends on tides  
20 and currents, and you probably don't have as  
21 much concern in that area for the construction  
22 team or am I wrong?

23 A (Pembroke) Well, there were times of year that  
24 we were concerned about and the New Hampshire

1 DES does not want in-water work to take place,  
2 and it's primarily the late winter through early  
3 summer. Typically, they would prefer not to  
4 have sediment-disturbing activities take place  
5 through about mid-November, but a lot of that  
6 relates to really a couple of specific fish  
7 species, and we were able to demonstrate that by  
8 the fall construction and we avoided important  
9 seasonal considerations for what are flounder,  
10 we can completely avoid those, and the  
11 anadromous fish species that traverse the  
12 estuary in the spring and the fall, the types of  
13 impacts that the jet plow would have on the  
14 water column were things that would not be a  
15 particular problem for those species.

16 Of course, there were some engineering  
17 considerations that really prevents the  
18 construction, the installation of the cables  
19 from taking place too much later in the year  
20 than the time frame we've identified. Speaking  
21 for the Construction Panel, the cable simply is  
22 not malleable in cold temperatures and just  
23 can't be handled and installed. So they  
24 accepted that compromise.

1 Q Ms. Allen, can I assume that if there are  
2 certain species where you have avoidance, in  
3 other words, you're not going to do construction  
4 during a certain time of year, is it the  
5 endeavor not to start something and then just  
6 let it sit and then start it up at another point  
7 or do it in phases so it's complementary to  
8 that?

9 A (Allen) You know, I'm not able to answer that  
10 fully. From my perspective, the intent will be  
11 to not adversely affect the species. How the  
12 contractor accomplishes that I think I'll have  
13 to leave to them.

14 Q But you're not concerned about something being  
15 on hold in a certain area for a certain amount  
16 of time having a negative impact?

17 A (Allen) That will have to be a consideration.  
18 If something is on hold in an area that's  
19 adversely affecting a particular species, we  
20 will have to take that into account, consider  
21 that, see if we can modify it.

22 Q Learned a lot about mattresses. And so my  
23 understanding on the mattresses, from what I've  
24 gathered as we've talked about with the

1 Construction Panel, they're articulating so  
2 they're a little bit flexible. I like the term  
3 biscuits because that made it helpful for me to  
4 understand what they remember.

5 So Ms. Pembroke, the way I understand it is  
6 it will be a period of time before that mattress  
7 just becomes part of the substrate surrounding,  
8 within the crevices of the biscuits, it's going  
9 to fill in with the silt and the soil over time  
10 with the current. And from what you talked  
11 about earlier, in terms of becoming somewhat  
12 embedded in the soil, I have to imagine for  
13 areas that are not heavily, with the heavy  
14 amount of rock that there's going to be some  
15 settling, and am I correct that way?

16 A (Pembroke) Well, I was thinking along those  
17 lines myself, but construction folks,  
18 Mr. Dodeman, told me that it's not likely that  
19 they will settle further after they've been  
20 placed.

21 And I do have to correct something that I  
22 said in response to Counsel for the Public. In  
23 areas where there is a layer of soft sediment,  
24 the intent is to clear a trench for the cable

1 but not under the entire mattress. So I did  
2 misspeak then. So they will be elevated a bit  
3 above the adjacent substrate.

4 Q You just took care of another question that I  
5 had.

6 In terms of the top of these mattresses,  
7 can I imagine that over a period of time though  
8 that soil is going to go on top of this or are  
9 they high enough and close to the tide mark  
10 where the tide is continually going to be taking  
11 substrate away? And let me explain. One of the  
12 reasons why I'm asking is because earlier we had  
13 talked about the possibility or the need for  
14 tinting, and I think there was even a discussion  
15 that Eversource might be willing to do that, and  
16 I'm just wondering if that even rises to the  
17 level of condition because if it's going to be  
18 buried over a period of time, does it matter.

19 A (Pembroke) Well, I think that there will be some  
20 sedimentation. It will probably vary along the  
21 length of where the mattresses are laid. I  
22 think in the inner tidal zone the likelihood of  
23 them being covered over by sediment may be less  
24 than in deeper waters. But if you walk out in

1 the inner tidal area and you look at the rocks,  
2 most of the rocks have algae attached to them  
3 and various organisms attached to them, and  
4 concrete actually is a reasonable substrate for  
5 that type of organism to settle on. So there  
6 will be some biological cover that takes place  
7 over time so that will have some camouflaging  
8 effect. But that will take some time. They'll  
9 be placed in the fall and certainly algae  
10 wouldn't start settling until probably the next  
11 spring.

12 Q When you say algae, could you be referring,  
13 because you had talked about macroalgae --

14 A (Pembroke) Yes.

15 Q -- in your Prefiled, and I think was it fucus?

16 A (Pembroke) Yes. Fucus.

17 Q That's something that would tend to be right in  
18 that intertidal area, would it not?

19 A (Pembroke) Yes, it is.

20 Q Would that tend to accumulate on top of those?

21 A (Pembroke) Yes, it would. Yes.

22 PRESIDING OFFICER WEATHERSBY: Followup?  
23 Back on the tinting. You had said that there  
24 may be, it's possible there may be an

1 environmental issues with whatever is used for  
2 the tint. Do you happen to have any more  
3 information now that a few days have passed  
4 concerning what's used? Is it water based, et  
5 cetera? Any environmental concerns with  
6 tinting?

7 A (Pembroke) Mr. Dodeman said that the tinting  
8 would basically take place at the factory and  
9 it's essentially an integral component of the  
10 concrete. So he was charged with looking for a  
11 MSDS sheet for the tinting material, but he  
12 indicated he thought that would be pretty  
13 unlikely that they even have them because the  
14 manufacturer would consider that material to be  
15 just an integral part of the concrete mix and  
16 would not dissolve out of the structure.

17 PRESIDING OFFICER WEATHERSBY: So you don't  
18 at this time have any environmental concerns  
19 about, the tinting would take place at the  
20 factory and be mixed into the concrete, possibly  
21 some type of clay or who knows what, but you  
22 don't anticipate that that material would be  
23 hazardous or present environmental concerns at  
24 this time?

1 A (Pembroke) Nothing I've been told would lead me  
2 to believe there would be a problem.

3 PRESIDING OFFICER WEATHERSBY: Okay. Thank  
4 you.

5 BY DIR. WAY:

6 Q One other thing that you brought up just made me  
7 think when we talk about the macroalgae settling  
8 on the concrete mattresses, does that buildup  
9 then make up a much more visible structure in  
10 the intertidal during tide changes?

11 A (Pembroke) Gee, I don't know. I think it would  
12 be more camouflaging. You know, it would make  
13 it resemble the rocks that are nearby a little  
14 bit more. Obviously, the shape would be  
15 evident.

16 Q Okay.

17 A (Allen) There are already rocks that are sort of  
18 in the vicinity so this would take on a look  
19 somewhat similar to that.

20 Q This would mimic that look. One moment, please.

21 This sounds like a construction question  
22 but not really. In terms of the concrete mats,  
23 we've been told that once you get them you can't  
24 really, you're not splitting them up and doing

1           them a little bit here. Do you know if they're  
2           customizable? In other words, are you confident  
3           you're not ordering more mat than you need that  
4           would make an environmental impact? So, in  
5           other words, can they, are you getting the right  
6           size mat that would minimize the environmental  
7           impacts? I think I'm saying that right.

8           A     (Allen) That is a construction question, but I  
9           can tell you that I know they need a certain  
10          amount of, they call it overlap to where the  
11          concrete mattresses extend beyond the cables,  
12          and from the discussion they seem to think three  
13          and a half to four feet was about right for  
14          extending beyond either side which leads you to  
15          the 8-foot width.

16          Q     Okay. I have one quick question, Ms. Pembroke.  
17                 So underneath the bay area, and we've  
18          talked a lot about what it's like in the bay  
19          although we really haven't talked a lot about  
20          what exactly, we've talked about pieces of it  
21          but not the whole bay.

22                 In terms of turbidity and current, how deep  
23          is it? Probably about ten feet at its deepest  
24          maybe or am I wrong?

1 A (Pembroke) 30 feet.

2 Q 30 feet.

3 A (Pembroke) In the channel.

4 Q Is sediment movement and turbidity, when you're  
5 encountering high tides, when you're  
6 encountering storms, is that common, is that  
7 common to the environment or is it very settled?  
8 So I'm trying to get a sense as to whether this  
9 jet plow activity is something that's even  
10 different from the norm that, to an extent, that  
11 might happen on a regular basis.

12 A (Pembroke) Well, there are some permanent buoys  
13 in the Great Bay system that one of the things  
14 they measure is turbidity, and they've been in  
15 place for years. And looking at the record,  
16 there's quite a bit of variability in the  
17 turbidity levels. So it's somewhat episodic.  
18 The tidal currents can pick up sediments and  
19 move them around. Storms can pick up sediments  
20 and move them around. Ice on the tidal flats  
21 can disturb sediments and get them started  
22 moving around. So actual deposition rates  
23 within the bay itself are not well understood,  
24 but there is frequent movement of sediments.

1 Q I think that was what I was trying to gather  
2 that this is an active area.

3 A (Pembroke) Yes.

4 Q One moment, please. Ms. Allen, I think it was  
5 you that referenced the ARM fund that would be  
6 from the wetlands permitting, and you mentioned  
7 a project such as Wagon Hill Farm. Is that in  
8 Durham?

9 A (Allen) That's in Durham. Yes.

10 Q There are other Projects that might benefit from  
11 that ARM fund money?

12 A (Allen) Yes.

13 Q Who makes that decision? Is that the Wetlands  
14 Bureau that will make that decision or is that a  
15 joint discussion?

16 A (Allen) It is ultimately the Wetlands Bureau  
17 decision. Our conversations to date with them  
18 have indicated that they are willing to agree to  
19 support the projects that Durham and Newington  
20 are proposing, subject to making sure that they  
21 meet sort of their end of the bargain in terms  
22 of submitting a reasonable proposal and having  
23 adequate guidelines, let's say, as they go  
24 through it in terms of end points and

1 commitments.

2 Q All right.

3 DIR. MUZZEY: In followup to that, has  
4 there been any discussion as to what would  
5 happen if those two Projects that are projected  
6 don't come together and don't take advantage of  
7 the ARM funding?

8 A (Allen) The, you know, I would have to look to  
9 see what DES says in their conditions. In our  
10 report, we specifically say at the end of our  
11 mitigation discussion that if these are not  
12 agreeable to both parties for whatever reason,  
13 that money reverts to the ARM fund for DES's  
14 use.

15 DIR. MUZZEY: Thank you.

16 **BY DIR. WAY:**

17 Q I want to go back to another issue that I had  
18 brought up on the mattresses. We had talked the  
19 other day about the possibility of marking where  
20 the mattresses are, and I think one of the  
21 reasons that I raised the issue is because  
22 there's a period of time between putting that  
23 down and maybe when the nautical charts are  
24 updated or the word has gotten out or it takes a

1 while for education to actually take hold. Does  
2 no good for you to put something like this in  
3 and then have an anchor rip it up. You'd be  
4 right, but it still would be, it would still be  
5 a problem.

6 So I'm asking from an environmental  
7 standpoint, is there a period of time that you  
8 think that markings might be beneficial to  
9 helping the environment. In other words, making  
10 sure that boats stay out of a certain area. Is  
11 that something that might be beneficial from  
12 your standpoint?

13 A (Allen) There are a couple of things to think  
14 about. I'm going to let Ann talk to the  
15 environmental part, but I did want to just kind  
16 of for a perspective make it clear that on the  
17 west shore the mattresses extend out about a  
18 hundred feet, and they're actually within kind  
19 of natural rock areas, that they almost form  
20 jetties. I'm not going to call them that, but  
21 that's what they look like. They're several  
22 linear formations of rock coming out from the  
23 shore and the mattresses are within those. So  
24 it would be very difficult for boat traffic to

1 get in there and park because of these rocks and  
2 in part because it's really shallow at the time  
3 that boats could get in there.

4 Q But not impossible because I think it was  
5 Mr. Dodeman that said that there's a lot of  
6 people that really shouldn't be boaters.

7 A (Allen) I am not going to answer that.

8 Q So you see what I'm saying is it's in your  
9 interest to make sure that this area is well  
10 identified at least for a period of time.

11 A (Allen) Yes.

12 Q So is there a benefit, maybe this is you as  
13 well, Ms. Pembroke, is there a benefit from your  
14 standpoint to ensuring that that area is  
15 avoided?

16 A (Pembroke) Yes. I just don't necessarily see a  
17 big necessity. In terms of any kind of boat  
18 anchor being able to disturb the concrete  
19 mattresses, each mattress weighs in the water  
20 6000 pounds, and the types of vessels that could  
21 get into the shallower areas where mattresses  
22 are mostly going to occur simply would not have  
23 anchors big enough to pull that mattress and  
24 move it.

1 Q Maybe not as much about the mattresses, more  
2 about the substrate that's starting to evolve  
3 again in response to the mattresses or how that  
4 environment is responding.

5 A (Pembroke) Do you have an opinion about that?

6 A (Swanson) No, not really.

7 A (Pembroke) It's unfortunate we don't have a good  
8 understanding of the rate at which that  
9 sedimentation might occur on top of the  
10 mattresses. Or, you know, if it will be  
11 permanent or ephemeral. And probably be most  
12 active in the fall through wintertime frame  
13 that, one of those active storms and so on. So,  
14 you know, maybe until the next summer it might  
15 be beneficial, but I don't have, you know, hard  
16 information that would allow me to quantify that  
17 any further.

18 Q Thank you. Just a couple more questions.

19 Ms. Allen, when you were being questioned  
20 yesterday afternoon by Attorney Richardson, and  
21 we talked about with Wetlands Permit, and I  
22 think it was 304.04, the notification to  
23 abutters.

24 A (Allen) Yes.

1 Q Did I get the citation correct? I think  
2 that's --

3 A (Allen) yes. I think you're right.

4 Q And you mentioned that in your conversations  
5 with DES they said you didn't have to do it in  
6 this case.

7 A (Allen) Correct.

8 Q And there's two questions. Was this the only  
9 case of an abutter issue where you didn't have  
10 to notify or were there others?

11 A (Allen) On this Project? That really was the  
12 only case simply because it's a water body issue  
13 and that was the only place it was an issue that  
14 we were close to the 20-foot --

15 Q So as I recall, the 12 feet away from the  
16 property.

17 A (Allen) I think that's what the engineer said,  
18 yes.

19 Q So once again, just so I understand it and I  
20 don't know if this is memorialized or in notes  
21 or emails or anything like that, but what was  
22 the reasoning for saying that that notification  
23 was not required?

24 A (Allen) It was a long time ago. I'm really

1 rusty on my notes for that. My recollection is  
2 that it was relating to, the discussion with  
3 them was around structures such as are you  
4 putting in a dock, are you putting in a jetty.  
5 That was the primary interest, and we weren't  
6 doing either of those, but again, my memory is  
7 not clear on that.

8 Q Is that something where now it's just a matter  
9 of memory or is if you go back to your notes  
10 that you might be able to recreate that  
11 discussion?

12 A (Allen) I will do that when I'm back in my  
13 office definitely. Take a look.

14 DIR. WAY: Can I make that request?

15 PRESIDING OFFICER WEATHERSBY: So your  
16 request is for her notes concerning why DES felt  
17 notice wasn't required?

18 MR. WAY: Or just further information. A  
19 confirmation why that stance was taken.

20 BY DIR. WAY:

21 Q And my last question is, and I think we've  
22 addressed the jet plow trial run with  
23 Mr. Fitzgerald, so as I heard it, is at the end  
24 of the trial, you're going to have 7 days to get

1           some sort of confirmation prior to the actual  
2           trial running. Is that what I heard?

3           A     (Pembroke) Seven days to get the results of the  
4           trial run to DES, and then they'll have two  
5           weeks to evaluate those results, discuss with  
6           us, you know, if they have concerns, and then  
7           the plan would be to start the installation.

8           Q     Okay. I thought I had heard one week for  
9           everything to happen.

10          A     (Pembroke) Oh, no. No.

11          Q     I was like I don't think that's happening.

12          A     (Pembroke) No, no, no.

13          Q     All right. Thank you very much.

14          A     (Pembroke) Thank you.

15          Q     Mr. Shulock?

16          **QUESTIONS BY MR. SHULOCK:**

17          Q     Good morning.

18          A     (All) Good morning.

19          Q     Ms. Pembroke, I think these questions are for  
20          you.

21          A     (Pembroke) Okay.

22          Q     When Attorney Patch was examining the Panel, I  
23          believe you testified or conceded that there  
24          would be a loss of feeding ground for sturgeon

1 where concrete mattresses were laid in the  
2 channel; is that correct?

3 A (Pembroke) That's correct. They feed on soft  
4 bottom.

5 Q And so is that loss expected to be permanent?

6 A (Pembroke) I would consider it permanent.

7 Q And are there any other fish species who will  
8 lose feeding habitat?

9 A (Pembroke) Yes.

10 Q Any endangered species?

11 A (Pembroke) No.

12 Q And we were talking about or you were talking  
13 about 8,681 square feet of concrete mattresses.

14 A (Pembroke) Yes.

15 Q But would placement anywhere cause loss of that  
16 feeding habitat? So where they're laid in the  
17 shallow tidal flats?

18 A (Pembroke) I wouldn't particularly expect  
19 sturgeon to spend much time in the really  
20 shallow area. I also want to note the fact that  
21 it's actually not expected that sturgeon, either  
22 species of sturgeon would use Little Bay very  
23 much. This summer we received information from  
24 U.S. Geological Service who is involved in a

1 monitoring program for short nose and Atlantic  
2 sturgeon along the northeast coast and they  
3 radio-tagged sturgeon and monitor their  
4 movements within rivers and bays. And they  
5 compiled 6 years' worth of data and concluded  
6 that sturgeon do not use the Great Bay system  
7 which includes the Piscataqua River, Little Bay,  
8 Great Bay, the tributaries for spawning habitat  
9 which would occur via use in the spring and that  
10 their use in the fall is very low. So they did  
11 not consider this to be more than incidental  
12 usage area for these species.

13 Q So can you put it in context for me about how  
14 much of the feeding area that is available to  
15 them in Little Bay would be affected by the  
16 concrete mats?

17 A (Pembroke) Well, 8681 square feet equals .2  
18 acres, and I don't have the acreage of Little  
19 Bay or Upper Little Bay or the whole -- I think  
20 Craig thinks he might have that number.

21 A (Swanson) Craig thinks he might, but I'm not  
22 sure.

23 A (Pembroke) But it's a very, very small  
24 percentage.

1 Q So would you expect it to have any effect at all  
2 on the number of sturgeon that might use Little  
3 Bay?

4 A (Pembroke) I do not think that it would affect  
5 the number of sturgeon. The number that enter  
6 the system is already low. So they're certainly  
7 not, you know, exceeding the capacity of the  
8 environment to support them.

9 Q So there was also a colloquy about magnetic  
10 fields that would exist after the line is  
11 energized.

12 A (Pembroke) Yes.

13 Q Would you expect that magnetic field to have any  
14 effect on the native fish species in Little Bay?

15 A (Pembroke) I do not think so. For the most  
16 part, you know, the cable is buried to  
17 sufficient depth that the magnetic field would  
18 decay into such a low level by the time it  
19 reached the surface of the sediment that it's  
20 not likely to be detectable. To begin with,  
21 it's already pretty low value, and I think Dr.  
22 Bailey will be able to expound upon this on  
23 Monday, I think he's here, and as I said,  
24 there's, where there's cables covered by

1 concrete mattresses, of course, the cover is a  
2 little bit less, but it's in a pretty confined  
3 area and in a shallow area that the sturgeon  
4 would be less likely to use.

5 Q Thank you very much.

6 A (Pembroke) Thank you.

7 PRESIDING OFFICER WEATHERSBY: Ms. Duprey?

8 **QUESTIONS BY MS. DUPREY:**

9 Q Thank you. Ms. Pembroke, I think most of the  
10 questions are for you, but my first question is  
11 actually to you and everyone to your left so  
12 Dr. Swanson and Bjorkman. Have all of you  
13 worked on jet plowing projects in the past?

14 A (Swanson) I have a number of times, and my firm  
15 has for many, many different projects.

16 A (Pembroke) I have as well.

17 A (Bjorkman) I have not.

18 Q Okay. Thank you. And how long has jet plowing  
19 been around as a means of crossing water bodies  
20 approximately?

21 A (Pembroke) I would say a couple decades?

22 A (Swanson) Yeah, we actually became involved in  
23 the early 2000s.

24 Q Okay. So there's a fair amount of information

1 as to the effects of jet plowing --

2 A (Swanson) Correct.

3 Q -- in water bodies. Okay. And I think that I  
4 understood you, Ms. Pembroke, in response to  
5 Attorney Ludtke's questioning yesterday to say  
6 that the effects to the water quality would be  
7 de minimis. Is that a correct statement of what  
8 you told her yesterday?

9 A (Pembroke) Yes. They're very temporary.

10 Q And is water quality the major issue  
11 environmentally that we should be considering in  
12 a jet plow situation?

13 A (Pembroke) Yes. I think so.

14 Q Okay. And so one of the things that you said to  
15 her is when you look at the totality of the  
16 effects of HDD versus jet plowing that in your  
17 view jet plowing has less significant effects.  
18 Is that, is that a correct characterization of  
19 your testimony?

20 A (Pembroke) Well, I think as she was asking me to  
21 look at only the effects in Little Bay.

22 Q Correct.

23 A (Pembroke) And that I agreed with her that in  
24 even though jet plow had de minimis effects,

1           that HDD had potential to have even less.

2       Q     It's a little bit versus nothing?

3       A     (Pembroke) Yes.

4       Q     I think that you also went on to say because she  
5           got to that point after you had made another  
6           statement, and as I recall you had said that  
7           taken in its totality the effects of HDD,  
8           meaning the laydown areas and everything else  
9           that was involved.

10      A     (Pembroke) Yes.

11      Q     That you didn't consider HDD to have fewer  
12           effects than jet plow.

13      A     (Pembroke) I'm not sure if I said that they were  
14           fewer, but there are definitely effects on the  
15           terrestrial side from the HDD process that need  
16           to be considered, in addition to the crossing of  
17           Little Bay itself.

18      Q     Were you involved in the decision to use jet  
19           plow over HDD?

20      A     (Pembroke) I was peripherally involved in the  
21           report that was put together to do the  
22           comparison. My input to the decision? Probably  
23           not quite de minimis, but --

24      Q     Okay. All right. Thank you. This may be for

1 Mr. Nelson. My understanding is that there are  
2 several oyster farmers in the area, not just Fat  
3 Dog, who have intervened, but to my  
4 understanding the others have not. Do they  
5 object to the Project, do you know? Have you  
6 had conversation with them?

7 A (Nelson) I can summarize. As I said before, we  
8 have had some significant conversations with the  
9 two closest oyster farmers. That's Mr. Tim  
10 Henry who is on the east shore. He does not  
11 oppose the Project. He seems very amenable to  
12 the offer that we provide to help him move his  
13 stock. The other licensed holder was Mr. Nick  
14 Brown who we I believe answered earlier has just  
15 received his license last year, fairly recently,  
16 and was forewarned that this Project was in the  
17 queue and that he might be, would need to make  
18 contingencies for that. Both of those license  
19 holders don't actively oppose this Project that  
20 we're aware of. Mr. Baker has expressed his  
21 concerns with this Project and has testimony to  
22 that effect.

23 Q Thank you.

24 MR. WAY: Followup?

1 A (Allen) Can I add one more thing to that? There  
2 is a fourth farm that we have not mentioned  
3 today.

4 Q A what farm?

5 A A fourth oyster license holder who is north of  
6 Fat Dog and is right on the edge of our mixing  
7 zone as it's shown today. We've also been in  
8 touch with him. He is called or that  
9 organization is called Joe King, and it's an  
10 oyster, it's a recreational kind of cooperative.  
11 So they are, again, we've been in touch with  
12 them, they've given us a tour of their site and  
13 we've kept them apprised of the progress of it,  
14 and they have not expressed concerns to date.

15 A (Nelson) Just for the record, I'll add one more  
16 name into the mix, and that's an oyster farmer  
17 by the name of Laura Brown had sent me an email  
18 with some concerns that she had regarding this  
19 Project. I sent her an email response with  
20 where to find all the information that's on the  
21 record that we've provided, and that was just a  
22 simple back-and-forth email communications and  
23 there has been no further communications from  
24 her to this point.

1 Q Okay.

2 MR. WAY: One question, Mr. Nelson. So the  
3 farm that was just recently licensed, is that --

4 A (Nelson) Nick Brown.

5 MR. WAY: Nick Brown. You mentioned that  
6 he was forewarned last year. Does that mean  
7 that he is completely responsible for moving his  
8 farm? Are you assisting him or are there  
9 negotiations or --

10 A (Nelson) He explained to us his current state of  
11 affairs. He's a fairly new license holder there  
12 and does not have a vast amount of stock, and  
13 the stock he has is I guess what you'd call  
14 consider immature. What he described to us is  
15 that he has the ability to remove all of his  
16 cages on to his boat, and he has the capacity to  
17 do that, and that effort would not be that  
18 substantial to endeavor. We, Ann was on the  
19 phone call with me as well, and, you know, we  
20 did extend the offer to -- given what he  
21 described, we're not sure what assistance, if  
22 any, he needs from us, but if he does need some  
23 assistance towards that effort, then we'd  
24 certainly look to help in some form or fashion.

1 MR. WAY: Is everything in cages or does he  
2 have some in the substrate?

3 A (Nelson) I believe everything he has is in  
4 cages.

5 A (Pembroke) Yes. I think that's the case.

6 PRESIDING OFFICER WEATHERSBY: Can I jump  
7 in while we're on oyster farms topically? For  
8 those oyster farms that are remaining in Little  
9 Bay, in the area of the mixing zone, I didn't  
10 see that you were having any sediment monitoring  
11 at those remaining farms. Is that true? And is  
12 there a reason for that?

13 A (Pembroke) We have had discussions with  
14 Mr. Baker about doing sediment monitoring on his  
15 farm, and that's something that should be  
16 included in the, I guess in the water quality  
17 monitoring plan.

18 PRESIDING OFFICER WEATHERSBY: So you are  
19 intending to have monitoring at least at  
20 Mr. Baker's farm?

21 A (Pembroke) Yes.

22 A (Allen) Are you referring to water quality  
23 monitoring during the jet plow installation?

24 PRESIDING OFFICER WEATHERSBY: Yes.

1 A (Pembroke) Oh, we're definitely having  
2 monitoring stations near his farm for that.

3 PRESIDING OFFICER WEATHERSBY: And is there  
4 a certain level, certain detectable level, does  
5 that affect your operations? Or is it just  
6 monitoring, and then after the fact looking at  
7 it and perhaps compensating him or what's the  
8 purpose of, what happens if there's an  
9 exceedance?

10 A (Pembroke) Well, partly it has to go through DES  
11 to determine what the mitigation would be for an  
12 exceedance, but in terms of oysters, you know,  
13 there's been actually quite a lot of research on  
14 their ability to be exposed to high levels of  
15 suspended sediments and that research indicates  
16 that the duration of exposure is extremely  
17 important in whether there are any deleterious  
18 effects to the oysters, and they're talking  
19 continuous exposure for weeks of TSS in the  
20 range of like 700 milligrams per liter or  
21 something, and given the short duration of the  
22 sediment plume and the predicted levels that  
23 might reach his farm, we're pretty confident  
24 that those conditions will just never be met. I

1 think I diverted from your question though.

2 PRESIDING OFFICER WEATHERSBY: So the  
3 monitoring then is just to be sure that the  
4 science proves true?

5 A (Pembroke) Yes. But again, and to meet the  
6 state's water quality standards. So if we don't  
7 meet the standards, which would definitely be  
8 protective of the oysters, then we go down the  
9 road of discussing with DES what mitigation  
10 would be appropriate. And again, this is a case  
11 if we were completely wrong in the modeling and  
12 he was harmed by the plume, the claims process  
13 would come into play.

14 PRESIDING OFFICER WEATHERSBY: Is that  
15 real-time monitoring?

16 A (Pembroke) We can do realtime monitoring for  
17 turbidity and TSS will take a day or so to get  
18 data back.

19 PRESIDING OFFICER WEATHERSBY: That's a  
20 sampling?

21 A (Pembroke) Yes. Water sampling, yes.

22 PRESIDING OFFICER WEATHERSBY: So if there  
23 was an exceedance, you wouldn't know it  
24 immediately and couldn't adjust the plow the way

1           you can with turbidity?

2       A     (Pembroke) Yes, but, you know, we have a general  
3           sense of how TSS and turbidity relate so we  
4           would, any time during the monitoring where we  
5           start seeing numbers that don't look good, we're  
6           supposed to be talking to the independent  
7           environmental monitor who will be in a position  
8           to start making decisions right away.

9                   PRESIDING OFFICER WEATHERSBY: Thank you.

10       BY MS. DUPREY:

11       Q     The concrete mattresses, do you know if they'll  
12           be visible from inside of the Crowley home?

13       A     (Nelson) I don't know the answer to that.

14       Q     Okay. My understanding is that some screening  
15           has been offered to the Crowleys. Do you know  
16           anything about that, Mr. Nelson?

17       A     (Nelson) Not in detail.

18       Q     Do you know if the screening would prevent the  
19           view of the mattresses from at least the  
20           exterior of the home?

21       A     (Nelson) I have not been involved in those  
22           discussions so I don't know what is proposed.

23       Q     Who would be that person?

24       A     (Nelson) I believe we have outreach people at

1 Eversource who have been involved in those  
2 discussions.

3 Q Are they witnesses to this proceeding?

4 A (Nelson) No. We can certainly provide you  
5 specifics with respect to those conversations.

6 Q With respect to Ms. Frink's property, you were  
7 testifying the other day that within ten to 20  
8 years there might be a tree there that would  
9 block the view of the transition structure, and  
10 you referenced a three-inch caliper tree as I  
11 recall. Why would we talk about a three-inch  
12 caliper tree? Why wouldn't we be talking about  
13 significantly bigger if you were really trying  
14 to screen the base and that structure? I  
15 realize you can't put an 85-foot tree up, but  
16 surely we could do better than a three-inch  
17 caliper tree.

18 A (Nelson) Three-inch caliper is fairly standard  
19 nursery stock size and --

20 Q That's not, I don't think, the answer to my  
21 question.

22 A (Nelson) For a three-inch caliper, for example,  
23 maple tree is going to have a root ball that's  
24 probably, you know, weighs several hundred

1           pounds so it's a significantly sized tree. When  
2           you start getting into sizes larger than that,  
3           installation, you know, complexity goes up. We  
4           may be talking, I'm not, I'm not a landscape  
5           expert by any means. If there was a desire to  
6           plant taller tree stock, that might be, that's  
7           certainly up for consideration. Generally,  
8           though, say, for example, a ten-foot tall  
9           three-inch caliper would have a fairly decent  
10          growth rate associated with that.

11        Q     And what is that growth rate?

12        A     (Nelson) I would put it on the order of three to  
13          five feet a year.

14        Q     Three to five feet.

15        A     Correct.

16        Q     You said, if I recall, it would take ten to 20  
17          years to get to a height where it could  
18          adequately block that tower.

19        A     (Nelson) To do the math, 3 feet, 20 years, 60  
20          feet, ten feet tall.

21        Q     And my last area of questioning is with regard  
22          to Ms. Heald's property. She has provided  
23          Prefiled Testimony to the effect as I recall  
24          that her property would be disturbed for

1 approximately two years. She was told that she  
2 might not be able to cross her property for  
3 about two years, and I was wondering why it  
4 would need to be in such a disturbed state for  
5 such a long period of time. What's the process  
6 that this goes through?

7 A (Nelson) I believe Mr. Plante spoke to that in  
8 better detail than I can, but the, it's not true  
9 that there would be a two-year construction  
10 phase that would limit Ms. Heald from accessing  
11 her property. Again, better question for the  
12 Construction Panel to talk about and more  
13 specifics. I believe we estimated about nine  
14 months' construction frame where there would be  
15 matting on the ground, that area, and as we  
16 described, the construction piece will happen  
17 in, there may be a period of time where there's  
18 a coordinated amount of activity, and that time  
19 period is where there's nothing going on during  
20 that time frame.

21 Q And will the company be willing to advise  
22 particularly the people who've asked for notice  
23 when people might be on their land, these are  
24 private areas that aren't really in

1 neighborhoods. I'm living on one myself. I  
2 know that I'm always surprised when some work  
3 person that my husband has decided to come work  
4 on the property but has failed to tell me that  
5 shows up on my door step.

6 A (Nelson) Absolutely. Absolutely. That's part  
7 of our process. So our siting and construction  
8 service team, we have dedicated outreach people  
9 who would be dedicated to this Project, and  
10 their task will be to be in constant  
11 communications with any abutting property owner  
12 or concerned citizen about these very issues.  
13 So certainly that communication schedules,  
14 proposed activities, all of those things are,  
15 would be communicated.

16 Q So even if the property wasn't put into its  
17 final state postconstruction, it's not your  
18 expectation that people would be working on  
19 anyone's property for two years or even nine  
20 months every day probably.

21 A (Nelson) Correct. Yeah. Yeah. There's a  
22 sequencing of events and there's no, on a linear  
23 project like this, a transmission structure  
24 installation scenario like this that would

1           require that kind of constant present in any one  
2           particular portion of a right-of-way for that  
3           long.

4           Q     Okay. Thank you very much. Those are my  
5           questions.

6                         PRESIDING OFFICER WEATHERSBY: Mr. Schmidt.

7           **QUESTIONS BY MR. SCHMIDT:**

8           Q     Good afternoon. I've got a few questions  
9           regarding the oyster beds. We heard earlier  
10          when Attorney Geiger was questioning that if  
11          they were covered with silt by half an inch  
12          would that kill the oysters, so to speak. I'm  
13          just asking Dr. Swanson, in the immediate area  
14          of the trial, your color coding in your exhibit  
15          shows a very heavy concentration of sediment.  
16          Do you anticipate greater than the half inch or  
17          a half inch in those areas?

18          A     (Swanson) No. Actually there is a figure that  
19          shows the deposition, the actual thickness of  
20          the material on the bottom.

21          Q     Yes. That cross-section?

22          A     (Swanson) Yeah, well, there's a plan view. I'm  
23          just trying to --

24          Q     I think it's 104.

1 A (Swanson) It's actually on my report, page 50.  
2 Figure 3-12.

3 Q I think it's PDF 60.

4 A (Swanson) Could very well be.

5 Q And if you look at the plan view, the center is  
6 a solid, pretty much a solid red which indicates  
7 5,000, I guess it's milligrams per liter.

8 A (Swanson) Right. That's not quite the figure.  
9 That's the concentration in the water of the  
10 sediment.

11 Q Correct.

12 A (Swanson) There is a figure if you go further, I  
13 think, beyond that, there's a figure 3-12?

14 Q I'm looking at 3-10 which is the cross-section.

15 A (Swanson) Right. That's showing the  
16 concentrations both from plan view on the top  
17 and then a section view, vertical section view,  
18 as you said, of the sediment concentrations.

19 Q Okay. Yes.

20 A (Pembroke) In the water column.

21 A (Swanson) In the water column. Yes. Not on the  
22 bottom.

23 Q I'm at 3-12 now.

24 A Okay. Good.

1 Q And the yellow is, what is that? One to 5  
2 inches?

3 A (Swanson) No, that's actually 1 to 5  
4 millimeters, and if you go to the next page,  
5 Table 3-18, I converted to inches.

6 Q Okay. Very good.

7 A (Swanson) So 1 to 5 millimeters is .04 to .2  
8 inches.

9 Q Great. Thank you.

10 We heard during the testimony where Ms.  
11 Ludtke was questioning, Attorney Ludtke, that  
12 New Hampshire Fish & Game has listed this area  
13 as closed for shellfish harvesting. Can one of  
14 you expand on that or possibly I made the wrong  
15 notes?

16 A (Pembroke) New Hampshire Fish & Game closed the  
17 charted cable area for shellfish harvesting, and  
18 I don't know exactly their rationale for that.  
19 It's been closed for years. I don't think it  
20 has, it has nothing to do with this Project.

21 Q Okay. Thank you. And you had indicated,  
22 Mr. Nelson, you had indicated earlier that  
23 Eversource has set up a claims process for the  
24 oyster banks. Can you elaborate on that, the

1 foundation of that at all?

2 A (Nelson) I apologize on that. I can't speak in  
3 great detail on that claims process. I'm not  
4 well versed in it, unfortunately. I'm sure we  
5 can provide that information.

6 Q And during the test run at the plume, from what  
7 I understand the testimony was, if the plume is  
8 large enough than expected, there's various  
9 options that could be investigated including  
10 blocking the forward nozzles. Can you explain  
11 what disadvantages of doing that right out of  
12 the gate would be? Can anybody do that or is  
13 that more of a technical committee question?

14 A (Pembroke) I think that's pretty construction  
15 related.

16 Q Okay. So none of you have any insight on what  
17 that would -- okay. Thank you. That's all I  
18 have, Madam Chair.

19 **QUESTIONS BY PRESIDING OFFICER WEATHERSBY:**

20 Q I have a few. The advantage of going last is  
21 that most of mine have been answered.

22 One question. We've compared this Project  
23 a little bit to the Merrimack Valley Project.  
24 Is much of the same team, environmental team and

1 construction team, the same on this Project as  
2 the Merrimack Valley Project?

3 A (Nelson) There are, within Eversource, the  
4 people who work on major projects, there are  
5 many players who have experience from MVRP who  
6 are also involved on this Project as well. That  
7 Project involved a different overhead  
8 construction contractor. It involved a  
9 different environmental consultant. But the  
10 process that was used on MVRP would be one we  
11 would seek to employ on this Project.

12 Q And did Eversource receive any complaints or  
13 violations regarding the environmental impacts  
14 of that Project?

15 A (Nelson) No. Not that I'm aware of.

16 Q Okay. Thank you. A little bit on the jet  
17 plowing. I understand there will be first one  
18 cable and then the next and then the next with  
19 some time in between. Will the data that is  
20 collected from the jet plow installation for the  
21 first cable be used to instruct, modify, the  
22 installation of the subsequent cables?

23 A (Pembroke) Yes.

24 A (Nelson) Yes.

1 A (Pembroke) Certainly. And there will be more  
2 time between the trial jet plow run and the  
3 first installation than is planned between the  
4 two installations so we're really going to  
5 harvest information from the trial jet plow run  
6 and look at that very carefully to make sure  
7 that we implement as many controls as we think  
8 are necessary right from the start.

9 Q Information from each jet plow either trial or  
10 laying so by the time we get to the third one it  
11 should be --

12 A (Pembroke) Perfect.

13 Q That's what we're anticipating.

14 A (Nelson) The monitoring plan for the jet plow,  
15 DES, we call it an adaptive monitoring plan so  
16 it's meant to be tweaked as needed as  
17 information is gathered that there can be  
18 changes with respect to monitoring protocols, et  
19 cetera, as more information is gathered.

20 Q Okay. Silt curtains. I've never actually seen  
21 one, but I'm anticipating that there's something  
22 floating on the surface, and there's a mesh or  
23 some type of material hanging below. But I'm  
24 curious as to what keeps that fabric, if it is

1 fabric, in place, anchored to the bottom, and is  
2 there, just runs across the channel? Or how  
3 does that stay in place?

4 A (Pembroke) I think the ends are probably  
5 anchored to the bottom. It does not run across  
6 the channel, and silt curtains can only be used  
7 in low current situations, and that's why the  
8 hand jetting on the east side part of it can't  
9 be between silt curtains because the tidal  
10 currents are too fast, and they simply make the  
11 curtains billow out.

12 Q That's right, And the curtaining will only be in  
13 the more shallow areas anyway except for that  
14 area you just described.

15 A (Pembroke) Yes.

16 Q Do those anchors, do they, pulling up anchors  
17 and then there's sediment, is that a factor, is  
18 that a de minimis factor and hasn't been  
19 included?

20 A (Pembroke) I would call it de minimis. They'll  
21 remain in place for a period of time. They're  
22 not removed every day and so on. Once they're  
23 installed, they're there through the hand  
24 jetting operation.

1 Q So it would be for the time period for the  
2 installation. Each of the three cables they'll  
3 be one set of curtain for each?

4 A (Pembroke) No. There will be one set that will  
5 enclose the entire area for the three cables.

6 Q Okay.

7 A (Pembroke) Because at that point the cables are  
8 getting closer together.

9 A (Allen) Just to be clear, one of the conditions  
10 in the DES permit addresses silt curtains and  
11 their installation and removal and modeling.  
12 We've had this discussion as well to make sure  
13 that we're clear on how they're employed and  
14 deployed.

15 Q Thank you. There was testimony a short time ago  
16 about 12 samples of testing for contaminants  
17 across Little Bay. I'm assuming, but could you  
18 confirm that those 12 samples were evenly,  
19 relatively evenly distributed? They weren't all  
20 in one location, correct?

21 A (Pembroke) That's correct.

22 Q There was a suggestion by some folks, I think,  
23 in Durham about nitrogen loading, and that this  
24 Project would create a huge increase in

1 nitrogen, and that that wasn't considered, and I  
2 haven't heard anything about that today. Could  
3 you just address nitrogen concerning the jet  
4 plow?

5 A (Pembroke) That's my friend at the end.

6 A (Bjorkman) We have, there was some intervention  
7 by some of the Intervenors related to claims  
8 that there would be large amounts of nitrogen  
9 potentially released to Little Bay as a result  
10 of this activity. We, you know, I know that we  
11 have and DES has taken into account that issue.  
12 They have, DES has as a result imposed this  
13 nitrogen marshalling requirements to make sure  
14 that this does not happen.

15 I might add that when we do our internal  
16 math on what the likely release could be and  
17 certainly there will be some release of  
18 dissolved nitrogen that is present on the  
19 sediment, that amount is very, very small in  
20 relation to what is already there and what is  
21 already present in the water column as a result  
22 of the loading that you have.

23 So the numbers that were indicated  
24 previously by the Intervenors is, the worst case

1 scenario they introduced was exaggerated, and I  
2 would very much disagree with that one. They  
3 did introduce at lower, several other scenarios  
4 that which are reasonable, but even their  
5 reasonable scenario and our reasonable scenario  
6 agree that the amount of nitrogen that would be  
7 introduced would be trivial in the big scheme of  
8 things.

9 Q Okay. A minute ago you had discussions with Mr.  
10 Schmidt about the thickness of the sediment as  
11 it comes back down to the floor of the bay, and  
12 I appreciate the tables and the clarification,  
13 but there was information that I recall about  
14 crabs and lobsters being buried and perhaps  
15 dying in some of the testimony. Could you  
16 address whether organisms will be buried as a  
17 result of the jet plow?

18 A (Pembroke) Well, crabs and lobsters are quite  
19 active movers and burrowers so those are species  
20 that unless they happen to be right in that, in  
21 a 13-inch wide trough that the jet plow  
22 temporarily creates because it fills in right  
23 behind itself, the likelihood of their being  
24 buried and being unable to escape is minimal.

1           In terms of shellfish species like soft  
2 shell clams and razor clams which are both  
3 edible species which humans seek, both of them  
4 are actually pretty active burrowers as well.  
5 So the larger the individual is, the greater  
6 capability it has to burrow back out of the  
7 sediments.

8           The deposition that's expected away from  
9 the trench is really pretty minimal. We're  
10 looking at fractions of an inch any distance  
11 away from each cable installation. So I think  
12 that it's, yes, some organisms will not be able  
13 to withstand the amount of burial, but many  
14 organisms will survive that.

15   Q   The organisms at risk are those that are  
16 actually being agitated by the jet plow part  
17 that's in the actual channel that's being  
18 created?

19   A   (Pembroke) Yes.

20   Q   So that's pretty minimal?

21   A   (Pembroke) Yes.

22   A   (Swanson) Actually, the total area that we  
23 calculated that's between five and ten  
24 millimeters which is .2 to .4 inches so less

1 than half an inch is one 10th of an acre, and  
2 essentially that's the route right along the, it  
3 is the jet plow route.

4 Q And I'm guessing that things like lobsters and  
5 horseshoe crabs that as they see this plow  
6 coming, they're going to be able to get out of  
7 the way. It's more the creatures that are  
8 buried. So there's not a reason to sweep the  
9 channel or --

10 A (Pembroke) No. I would agree there's not a  
11 reason to sweep the channel.

12 Q My last question is we talked about the concrete  
13 mattresses. Ms. Pembroke, I think, described  
14 them being laced and I was just trying to  
15 understand. Does that mean they're going to be  
16 like interlocking? What do you mean by laced?

17 A (Pembroke) The blocks themselves so one mattress  
18 is made up of a bunch of blocks.

19 A (Allen) Biscuits.

20 A (Pembroke) Pardon me?

21 A (Allen) Biscuits.

22 A (Pembroke) Biscuits doesn't do it for me, but  
23 we'll use that term. They are attached with  
24 nylon cord of some type. And so the, if you're

1           trying to attach two mattresses together, you  
2           use the same type of nylon cord, that's  
3           considered to be the appropriate means for  
4           interlace.

5       Q     So they really will be laced, there will be a  
6           cord that will basically stitch them together.

7       A     (Pembroke) Yes. We're hiring seamstresses.

8       A     (Nelson) There are loop ends on the end of the  
9           mattresses that will be used to lash them  
10          together.

11      Q     Thank you for that clarification. I was trying  
12          to visualize it. That's all I have. Any  
13          followup?

14                MS. DUPREY: Will the mattresses be able to  
15                or the biscuits be able to move around at all as  
16                a result of being laced or are they too heavy to  
17                move?

18      A     (Pembroke) My understanding is they are too  
19          heavy to move.

20                MS. DUPREY: I'm just thinking having three  
21                sons that the minute my sons saw that in the  
22                water they would be on them, and I just want to  
23                be sure that -- there will be people who climb  
24                on them. I just want to be sure?

1 A (Pembroke) 6000 pounds per mattress.

2 MS. DUPREY: So nothing is going to move.  
3 No one is going to get injured.

4 A (Pembroke) I don't think so.

5 Q Okay. Thank you.

6 PRESIDING OFFICER WEATHERSBY: Mr. Way?

7 DIR. WAY: Yes. One last question from me.  
8 I don't think we've talked about this. In terms  
9 of any dredging that's happened in the bay, I  
10 don't believe there's been any in the past. Do  
11 you see the need for any dredging to occur in  
12 the future? Commercial dredging to clear the  
13 water way?

14 A (Pembroke) No. My understanding is that that  
15 channel rarely would need dredging, and it  
16 wouldn't need deepening. There's no, it's only  
17 essentially recreational and fairly small  
18 commercial fishing vessels that primarily would  
19 use that channel. So there's --

20 DIR. WAY: So you don't anticipate that  
21 happening in the future?

22 A (Pembroke) I do not.

23 DIR. WAY: Thank you.

24 A (Allen) The only thing I would add to that is

1 that it's not a federal navigable channel so the  
2 Corps does not perform any dredging in Great Bay  
3 which is typical, typical dredger that maintains  
4 channels, and by the time you're up into Little  
5 Bay it's a, it's basically a naturally  
6 maintained channel. We've looked at topo, and  
7 it changes some, but not a whole lot in the  
8 course of time. So we don't expect it to become  
9 more shallow.

10 Q Thank you.

11 PRESIDING OFFICER WEATHERSBY: Attorney  
12 Iacopino?

13 **QUESTIONS BY MR. IACOPINO:**

14 Q Thank you. I just have some questions just to  
15 make the record here so that when the Committee  
16 deliberates they understand some things.

17 With respect to the Best Management  
18 Practices for wildlife and vegetation, we have  
19 two exhibits regarding those. One is  
20 Applicant's Exhibit 111 which is dated June  
21 30th, 2017, and the other is Applicant's Exhibit  
22 124 which is dated September 15th, 2017. Is it  
23 the intent of the Applicant that Exhibit 124 was  
24 meant to replace 111?

1 A (Allen) Yes.

2 Q It is.

3 A (Allen) Yes.

4 Q So that if the Committee is considering  
5 conditions, the Applicant would suggest using  
6 124 to structure those conditions.

7 A (Allen) Yes.

8 Q Thank you. My next question is about what plans  
9 are still expected by DES. I'm going to give  
10 you the list that I have, and I've taken these  
11 from what's been marked as Applicant's Exhibit  
12 183 which is the August 31st DES correspondence,  
13 and I'll go by condition.

14 Condition 41 of the wetlands requires an  
15 eelgrass survey plan. Condition number 42  
16 requires a benthic habitat monitoring plan.  
17 Number 43 requires a benthic infaunal community  
18 plan. Number 44 requires a revised mixing zone  
19 plan. Number 45 requires a water quality  
20 management, monitoring and adaptive management  
21 plan. Number 46 requires a shellfish program  
22 monitoring and reporting plan, and number 47  
23 requires a mitigation plan.

24 Are there any other plans that the

1 Applicant believes they are required to provide  
2 to the Department of Environmental Services?

3 A (Allen) If I can just clear up a couple of  
4 things. Number 47 is not a plan that we're  
5 preparing at this point. It's to be prepared if  
6 DES requires it.

7 Q Okay.

8 A (Allen) So that's one. Couple others that I'm  
9 aware of that we need to provide. We do need to  
10 do a revision to or I expect that we'll be doing  
11 a revision to the time of year best management  
12 practices for construction, the plan you just  
13 referenced.

14 Q Applicant 124 in our record here.

15 A (Allen) Okay.

16 Q From September 15th, 2017.

17 A (Allen) Okay.

18 Q So you're going to revise that?

19 A (Allen) Yes. I would have to get you the  
20 condition number. Do you have that?

21 A (Nelson) 32. 32, 35 and 36 all speak to  
22 wildlife.

23 Q So conditions 32 through 36 address that?

24 A (Nelson) 32, 35 and 36.

1 Q Thank you.

2 A (Allen) We also need to be doing a salt marsh  
3 monitoring, restoration and monitoring plan that  
4 needs some updating.

5 There is a cable removal plan that is  
6 finalized and has been accepted by DES so that  
7 is on the record and will not change.

8 A (Nelson) Condition 49. There is a condition 38  
9 is a Soil and Groundwater Management Plan. A  
10 revised version was submitted in July of 2018.  
11 That is with DES and still waiting their review.

12 There is a, pursuant to condition 48, a  
13 Spill and Prevention Cleanup Plan. That has not  
14 been yet submitted to DES.

15 Q So that should be the plans that DES is waiting  
16 on or you're waiting on DES to approve?

17 A (Nelson) Correct.

18 Q And then my last --

19 MR. PATCH: Madam Chair, I just have one  
20 point that I think is important to make at this  
21 point in the record. One of the things during  
22 the cross-examination that I did was not just  
23 about the August letter but about the February  
24 letter and plans that were required by that that

1           were not modified by the August letter, and so I  
2           just think you need to make sure that you have  
3           them all. That's all.

4           MR. IACOPINO: I think I've asked them if  
5           that's all. Is that the ones that you all are  
6           aware of.

7           A     (Nelson) Have we -- we captured 46?

8           A     (Allen) I think that's the full list.

9           Q     Okay. My final question deals with the text  
10          correction issue, and I know that Counsel for  
11          the Public went over this a little bit with you,  
12          but I want to make sure it's complete.

13          You filed your original DES documents which  
14          were in the Application as Appendices 13 through  
15          16, and have been marked as Exhibits 32 through  
16          35 on April 12th, 2016. It's my understanding  
17          that you then amended them with Appendices 13 A  
18          through 16 A which have been marked as exhibits  
19          88 to 91 on March 15th, 2017. Is that correct?

20          A     (Allen) That sounds right, yes.

21          Q     You then received an approval from DES on  
22          February 28th, 2018, but that approval contained  
23          the dredge and fill numbers and the various  
24          numbers of like the concrete mattresses and

1           whatnot from the original filing. They didn't  
2           catch that you had changed those numbers. Is  
3           that correct?

4           A     (Allen) Most of them were from the original  
5           filing. Some of them actually were accurate.

6           Q     Okay. You then filed a request with DES for  
7           corrections and changes, and that's been marked  
8           as Exhibit 182. That was April 29th, 2018.

9                     And then we received a response to the  
10           Chair's letter dated August 31, 2018, and marked  
11           as Exhibit 183, and that contained DES  
12           acceptance of your text corrections which means  
13           that those changes that should have been in the  
14           February 2018 approval were now accepted by DES.  
15           Is that your understanding of that?

16           A     (Allen) That's almost right. The only thing I'd  
17           like to clarify is that the version of our  
18           Appendix A that they accepted is dated, I think  
19           it's August 17th. We reattached it to -- 2018,  
20           yes. We reattached it to our August 17th  
21           letter.

22           Q     Thank you. I don't have anything further  
23           questions.

24                     PRESIDING OFFICER WEATHERSBY: Director

1 Muzzey?

2 DIR. MUZZEY: Following up on an earlier  
3 conversation I wanted to make sure my Request  
4 for More Information was clear, and that was in  
5 regard to the environmental review that was done  
6 for the northern and southern routes. It in the  
7 original Application and Mr. Jiottis's testimony  
8 in Exhibit 6, the conclusion is that fewer  
9 impacts to wetlands and other natural and  
10 cultural resource areas will result with the  
11 middle route, and my question was not what was  
12 that broad conclusion, but what were the methods  
13 and how did that, how did the Applicant arrive  
14 at that conclusion. And so I just wanted to  
15 make sure I was clear about that, and that it  
16 would be possible to get that information.

17 PRESIDING OFFICER WEATHERSBY: Understood.

18 MR. NEEDLEMAN: Understood.

19 DIR. MUZZEY: Thank you very much.

20 MR. FITZGERALD: Madam Chair?

21 PRESIDING OFFICER WEATHERSBY: Mr.

22 Fitzgerald.

23 MR. FITZGERALD: Just to clarify with  
24 regards to that, do we have an existing document

1 request to better understand the difference  
2 between the northern and southern route and what  
3 was referred to as the Gosling alternative?

4 MR. IACOPINO: Yes. There is a record  
5 request that was made by Ms. Duprey that I  
6 understand the Applicant will be trying to  
7 fulfill.

8 MR. FITZGERALD: Thank you.

9 MS. LUDTKE: Excuse me. Can I make a  
10 comment on a request that was made on --

11 PRESIDING OFFICER WEATHERSBY: Can you use  
12 your mic, please, Attorney Ludtke?

13 MS. LUDTKE: Sorry. I'd like to make a  
14 brief comment on the requests that have been  
15 made for the outstanding material and the text  
16 corrections because we have been struggling with  
17 the same issue, and I think it would benefit  
18 everyone in this proceeding if the Committee  
19 would make a request to DES to issue a final  
20 permit document so we would have a single  
21 document that would contain all the relevant  
22 conditions and all the relevant text  
23 corrections. Because trying to go through the  
24 February 27th, 2018, permit, the August 31st

1 permit, and two text correction letters, one in  
2 April and one in August, and derive the final  
3 permit from pulling all that material together  
4 is a very difficult, I would say impossible,  
5 exercise and I could point out some areas of  
6 ambiguity there.

7 So I don't think we need to go into the  
8 details on this, but I really do think it would  
9 benefit everyone if we did get a final permit  
10 document from DES so we would all understand  
11 what the final permit contained.

12 MR. PATCH: Could I ask to be heard on that  
13 issue as well?

14 PRESIDING OFFICER WEATHERSBY: Just one  
15 second.

16 (Presiding Officer Weathersby  
17 conferring with Mr. Iacopino)

18 PRESIDING OFFICER WEATHERSBY: Attorney  
19 Patch.

20 MR. PATCH: I would support the request  
21 that Ms. Ludtke made and just want to point out  
22 a couple of things. One, I believe there was  
23 testimony yesterday, it might have been on  
24 Tuesday, to the effect that they were still

1 discussing with DES, I think it was condition 71  
2 through 81. So we don't even know yet what the  
3 final version of the permit will look like, but  
4 I support the request that whatever the final  
5 version is that there be something submitted and  
6 in the record.

7 And then secondly, I wanted to cite a  
8 provision that was in your order which denied  
9 the request that Durham and UNH made that the  
10 proceeding be suspended, and it said there if  
11 DES changes its conditions and/or  
12 recommendations, and this was prior to the  
13 August 31 letter, the Subcommittee will have the  
14 ability to reorder witnesses, add additional  
15 hearing dates and make other orders that protect  
16 the interests of all parties to the proceeding.  
17 And I just think it's important that we still  
18 have the opportunity if we think it necessary  
19 once we see what we hope will be a final and a  
20 truly final permit from DES that we retain the  
21 right to be able to request additional, the  
22 opportunity to ask questions of witnesses about  
23 those final conditions. Thank you.

24 MR. NEEDLEMAN: Madam Chair, may I be

1 heard?

2 PRESIDING OFFICER WEATHERSBY: Attorney  
3 Needleman.

4 MR. NEEDLEMAN: I actually agree with the  
5 first portion of what Mr. Patch said. I think  
6 it would probably be beneficial to have anything  
7 consolidated in one place.

8 I strongly disagree with the second part.  
9 There are no changes at this point. Though it's  
10 scattered throughout the record, we have the  
11 final conditions. And I believe that the order  
12 that was referenced or the reference in the  
13 Committee's order about the opportunity to ask  
14 additional questions pertain to DES issuing that  
15 letter, and the letter was issued, and then the  
16 Construction Panel appeared afterward, and  
17 everyone had an opportunity to ask that Panel  
18 and this Panel about this. So that matter is  
19 now closed. And consolidating the permit  
20 provisions would be fine, but bringing people  
21 back to then ask more questions would be unfair  
22 and inconsistent with that order.

23 MR. RICHARDSON: Madam Chair? Sorry to  
24 jump in.

1                   PRESIDING OFFICER WEATHERSBY: Attorney  
2 Richardson.

3                   MR. RICHARDSON: Thank you. I also share a  
4 slightly similar concern but slightly different  
5 perspective than that expressed by Attorney  
6 Patch and Ludtke.

7                   I've heard throughout this proceeding that  
8 there are ongoing negotiations with DES and so  
9 I'm confused how there can be no changes made.  
10 I'm obviously, the Crowley Joyce Intervenors  
11 were late Intervenors and weren't given an  
12 opportunity to provide testimony, but I'm  
13 concerned that the ongoing discussions in  
14 particular could result in changes to the  
15 decision that would affect the Crowley Joyce  
16 property, and in particular, whether the  
17 Applicant might seek a waiver of the 304.04 rule  
18 that I tried to address yesterday, and I didn't  
19 get much success. I know there's now a pending  
20 record request.

21                   What I'm trying to get at is this is making  
22 it exceptionally difficult for me to represent  
23 my client's interests when we're here to have a  
24 proceeding, we're locked in, and yet the permit

1 conditions can change as a result of  
2 discussions. And I guess I don't know how this  
3 Committee should referee that process, but it's  
4 a grave concern right now as to whether I'm  
5 getting a fair hearing for my client.

6 PRESIDING OFFICER WEATHERSBY: Attorney  
7 Needleman?

8 MR. NEEDLEMAN: Thank you. Again, permit  
9 conditions are not changing. What's happening  
10 here is a very common practice that DES uses all  
11 the time which is implementation of permit  
12 conditions with Applicants. I think there are  
13 many people in this room who have sat on the  
14 SEC, who have been Counsel to the Public in  
15 other proceedings, and I'm happy to provide  
16 references to them if the Committee wants them,  
17 where this exact process has unfolded with these  
18 types of DES conditions which are ultimately  
19 delegated to the Committee. There is nothing  
20 unusual about this process. There is nothing  
21 unfair about this process, and I think to  
22 characterize it otherwise is simply not  
23 accurate.

24 MS. GEIGER: Madam Chair, may I be heard

1           briefly.

2           PRESIDING OFFICER WEATHERSBY:   Yes.

3           MS. GEIGER:   I'd support what Attorneys  
4           Ludtke, Patch and Richardson have requested in  
5           terms of a single consolidated clear and final  
6           list of permit conditions from the Department of  
7           Environmental Services, if for no other reason  
8           than to provide certainty to all the parties,  
9           including the Committee, as to what those  
10          conditions might be.

11          MR. PATCH:   Madam Chair, if I could just be  
12          heard on one issue that Mr. Needleman just  
13          raised.  I happen to be a former member of the  
14          Committee so I think he was referring to me  
15          probably, and I think in terms of the number of  
16          plans that will be submitted at some point after  
17          the Committee makes a decision, presumably, I  
18          think this is a very rare situation, number one.

19          Number two, the legislature amended the  
20          statute in 2014 with regard to the authority to  
21          delegate, and I think that's very relevant to  
22          this issue so I just wanted to point that out.

23                         (Presiding Officer Weathersby  
24                         conferring with Mr. Iacopino)

1           PRESIDING OFFICER WEATHERSBY:   Okay.

2           Here's what we're going to do.

3           We actually have asked DES, because pieces  
4           are floating around in different documents, we  
5           have asked them for a single list of permit  
6           conditions.  What we will do is -- and they were  
7           not receptive to that idea.  We will ask again  
8           and try to be a little more persuasive and see  
9           if we can get a single document that everyone  
10          can use so that everything is in the same  
11          location.

12          Concerning the ever-evolving process here,  
13          it is a fairly typical process.  And if someone  
14          feels at any point that they need to call a  
15          witness back, you can make a motion to do so and  
16          the Committee will consider it, but for me to  
17          make a decision right now on that would be  
18          premature.

19          So we're going to go to redirect.  Off the  
20          record.

21          MR. FITZGERALD:  Madam Chair, may I ask a  
22          question of our counsel?

23          PRESIDING OFFICER WEATHERSBY:  You want to  
24          do it in private?

1           MR. FITZGERALD: No. Public is fine.  
2           Under Chapter 162-H, it says, you know, gives  
3           the requirements for issuance of a Certificate,  
4           one of which is that it shall not have  
5           unreasonable adverse effect on the natural  
6           environment. It's the area that we're talking  
7           about now. And we, isn't the assurance that  
8           we'll have undue, natural, undue impact on the  
9           natural environment, can that be predicated on  
10          receipt of information following the close of  
11          these proceedings?

12          MR. IACOPINO: It can be, but whether or  
13          not you choose to do that is a decision that you  
14          as a Committee will have to determine during  
15          deliberations. RSA 162-H, Section 16, the last  
16          section of it permits you to condition a  
17          Certificate upon required studies of both  
18          federal and state agencies. In addition, there  
19          are delegation and monitoring authority in RSA  
20          162-H, Section 4. However, those are the areas  
21          where the statute permits you to condition a  
22          Certificate on something that happens beyond the  
23          actual end of these proceedings. Whether you  
24          choose to do that or not is something that you

1 all have to deliberate and decide as a  
2 Committee.

3 MR. FITZGERALD: Thank you.

4 PRESIDING OFFICER WEATHERSBY: Redirect.  
5 But off the record just a minute.

6 (Discussion off the record)

7 **REDIRECT EXAMINATION**

8 **BY MR. NEEDLEMAN:**

9 Q Mr. Nelson, when Ms. Frink was asking you  
10 questions early on, she asked you in particular  
11 about the photo she showed in the crossing of  
12 her property recently, and you didn't have much  
13 information about that. Were you able to get  
14 more information?

15 A (Nelson) Yes, I did.

16 Q Can you tell the Committee briefly what you  
17 learned?

18 A (Nelson) Yes. I spoke to Mr. Ian Farley who's a  
19 distribution arborist at Eversource --

20 (Court reporter interruption)

21 A (Nelson) I spoke to Mr. Ian Farley this morning.  
22 He's a distribution arborist at Eversource, and  
23 he recounted the events that were depicted in  
24 the photo that Ms. Frink provided. So to

1           recount, there was vegetation work that was done  
2           on an adjacent property that's referred to as  
3           the Pickering property. The crews who did work  
4           at that location accessed that particular  
5           section of right-of-way through Ms. Pickering's  
6           property. Part of the scope of work was to not  
7           only do some trimming but also to clean up woody  
8           debris and logs from that section of  
9           right-of-way.

10           Mr. Farley explained to me that the path  
11           into the right-of-way corridor through Ms.  
12           Pickering's property was not sufficient to allow  
13           for the removal of wood and debris out so they  
14           endeavored to exit through the Frink property.  
15           Prior to doing so, the day before, a door  
16           knocker was left on Mr. Frink's door. Mr. Frink  
17           did contact, I believe, the foreman of the crew,  
18           a discussion ensued, Mr. Frink was amenable to  
19           the crew's passing through the Frink property.

20           Wetlands BMPs were used in the crossing of  
21           the wetland area. Polyethylene mats were used  
22           to cross over the wetland area. And that is  
23           about the extent of it. There was some concern  
24           about cutting of vegetation, and there may have

1           been some mowing of vegetation along the, within  
2           the wetland area to better facilitate mats.  
3           That may have been a possibility. The work done  
4           was done under the provisions for utility  
5           notification maintenance which applies to  
6           utility maintenance activities and wetland  
7           areas.

8           Q     Mr. Nelson, when Ms. Ludtke was questioning the  
9           Panel, she asked about outreach that occurred in  
10          relation to the HDD paper and the work that was  
11          done to assess HDD, and you didn't have much  
12          information about that. Have you had the chance  
13          to learn a little bit more?

14          A     I have.

15          Q     Dawn, could you pull up Exhibit 140, attachment  
16          8, please? And let's go to the first pages.  
17          Pages 1 and 2.

18                         So are you generally familiar with this  
19          exhibit?

20          A     (Nelson) I am.

21          Q     And these first two pages summarize all of the  
22          meetings that have occurred over the course of  
23          the last several years with towns; is that  
24          correct?

1 A (Nelson) Correct.

2 Q And at the very bottom I want to call your  
3 attention to two entries in particular. They're  
4 highlighted. Dawn, if you can blow those up?

5 So am I correct that -- I can't see the  
6 exact date, but am I correct that the Project  
7 had discussions about the HDD paper with both  
8 UNH and Durham together and then with Newington  
9 together on the same day?

10 A (Nelson) That is my understanding.

11 Q I guess, I think it's the bottom of page 2,  
12 Dawn, the outreach exhibit.

13 Okay. It's in the record. I'm not sure we  
14 have to highlight it there. Am I also correct  
15 that the HDD outreach included contact with the  
16 media and environmental stakeholders?

17 A (Nelson) Correct.

18 Q And did Eversource also make an attempt to  
19 conduct outreach with individual property owners  
20 on either side of the corridor that might be  
21 directly affected by the HDD?

22 A (Nelson) They did.

23 Q And were those property owners notified of the  
24 filing and also notified of the July 10th

1 Technical Session that was devoted to HDD?

2 A (Nelson) They were.

3 Q Ms. Duprey asked earlier about outreach  
4 associated with construction. I'd just call the  
5 Committee's attention to this same exhibit while  
6 we're here on pages 24 through 37 which  
7 specifically go to that issue.

8 One last question. Dawn, if you can call  
9 up Applicant's Exhibit 166? I want to look at  
10 finding number 23.

11 Ms. Ludtke also asked questions about  
12 consultation with the Coast Guard. I think we  
13 haven't looked at this provision yet. Am I  
14 correct that in these findings DES actually  
15 contemplates that the Project is going to  
16 coordinate with the Coast Guard among other  
17 authorities pertaining to the concrete matting  
18 and the Project in Little Bay?

19 A (Nelson) That is correct.

20 Q Nothing further, Madam Chair.

21 PRESIDING OFFICER WEATHERSBY: Thank you.  
22 The Environmental Panel is excused. Thank you  
23 for your testimony. And we'll take a break for  
24 lunch and be back at 2:20, and we will continue

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with the cross-examination of Mr. Cullen.

(Lunch recess taken at 1:21  
p.m. and concludes the **Day 6  
Morning Session**. The hearing  
continues under separate cover  
in the transcript noted as **Day  
6 Afternoon Session ONLY**.)

C E R T I F I C A T E

I, Cynthia Foster, Registered Professional Reporter and Licensed Court Reporter, duly authorized to practice Shorthand Court Reporting in the State of New Hampshire, hereby certify that the foregoing pages are a true and accurate transcription of my stenographic notes of the hearing for use in the matter indicated on the title sheet, as to which a transcript was duly ordered;

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this transcript was produced, and further that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

Dated at West Lebanon, New Hampshire, this 26th day of September, 2018.

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Cynthia Foster, LCR